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THE DIAGNOSIS OF GALL-STONE LODGED IN THE COMMON DUCT*

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A gall-stone is apparently a small and insignificant object; yet it is frequently sufficient, as in the case about to be reported, to account for a long, painful and incapacitating illness. This particular stone, removed from the patient's body, marks the difference between previous months of invalidism and present good health.

Clinical History.—The patient, a woman aged 40, was first seen at Lane Hospital Oct. 7, 1912. She had always been fairly well except for occasional attacks of malaria until seven years before, when she began to have attacks of pain in the upper abdomen, ultimately recognized as due to gall-stones. After suffering from these for four years she was finally operated on at her home in Louisiana. She was told afterward that approximately 300 stones were removed, that there was a liver abscess and that gall-stones were found imbedded in the liver. Four weeks after operation she passed gall-stones through the open drainage wound. Six months later, after the wound had healed, she had another attack of severe pain similar to that experienced before. These items are important because they prove that the operator did not find and remove all the stones at the first operation. After this, however, the patient remained fairly well and suffered no more attacks of pain until four months previous to the time that she presented herself at Lane Hospital. Then the present illness began, with a feeling of weariness and exhaustion, gradually increasing jaundice and finally recurring attacks of pain in the upper abdomen that had persisted ever since. For two months she had been in bed most of the time because of her ill health. Her attacks, she said, came irregularly; at times every day, at other times only every week or ten days. In the interval between attacks she had no pain or fever and her skin grew clearer. The site of pain was the pit of the stomach, whence the pain radiated into the back and upward under the right shoulder blade; it was very severe, requiring opiates constantly for relief, was cramp-like and colicky in character and lasted for from two to five hours, depending on how promptly the patient could get the opiate; sometimes she vomited during the attack, but not often; no tenderness or soreness followed.

After the pain ceased, she had a chill, followed by fever, which in turn was followed by sweat, the whole lasting several hours. Following an attack, the stools were always very light in color, the urine very dark, and the skin and eyes a bright yellow, which persisted for only a day or two, provided no other attack came on.

Examination.—Except for a chronic jaundice, a muddy, dirty skin and yellowish conjunctivae, all physical findings were negative. Neither the liver nor the spleen was enlarged. There was no tenderness over the right hypochondrium or the epigastrium. This absence of objective evidence in gall-bladder cases is not uncommon; repeatedly in patients who have come to operation it has been a surprise to find the extent of pathologic change existing in and around the gall-bladder, although before operation no abnormality could be made out.

The laboratory evidence likewise showed only the presence of jaundice, with moderate secondary anemia. The urine was very dark and contained bile; the feces were very light and lacking in bile; the hemoglobin and red corpuscles were slightly reduced, while at the outset the count of white cells was normal, 7,200.

Course.—The next indication was to watch the course of events for a time to see whether or not the patient's story was correct, for, so far, her statement constituted all the data on which we could depend for diagnosis. Fortunately, the incidents of the next few days were in exact accord with what she had told us of her recent illness. At 4 p. m. on the 8th she began to have pain in the epigastrium and right hypochondrium; at 6 p. m., with a rising temperature, she had a chill; by 8 p. m. the fever reached its highest point, 101.5 F.; then with perspiration it rapidly fell during the night and the next morning was subnormal. This group of events, pain, chill, fever and sweat, repeated itself on the 9th and again on the 10th, with a most remarkable periodicity, the paroxysm recurring at almost precisely the same hour each afternoon. Each time morphin hypodermically was required for relief, but in the interval between attacks there was no pain at all. Each paroxysm was followed by decided deepening of the jaundice, manifested in skin, eyes, urine and feces. At the time of the paroxysm on the 10th, when the fever rose to 103.8 F., the leukocyte count was 15,600. After the 10th there were no further violent attacks, but a daily abortive rise of temperature each afternoon, never above 100 F., without severe pain, without chill and without sweat.

Operation.—Convinced by the manifestations described, for reasons that will be discussed later, of the presence of a gall-stone lodged in the common duct, we referred the patient to Dr. Stanley Stillman, who operated October 17. The stone in the common duct was found and removed; the duct above it was greatly dilated; the gall-bladder itself was small, contracted and thickened, but contained no stones. The patient made a prompt recovery and has had no pain since. The jaundice has all disappeared and she is well.

The diagnosis of stone in the common duct depends on several different factors. First in importance comes the patient's previous history. Gall-stones are almost invariably formed in the gall-bladder. There they lie quiescent after their formation, or else they attempt to escape. In either case they give rise to symptoms. These symptoms may be only those of chronic indigestion, due to the hyperchlorhydria reflexly induced, or to mechanical interference with the pyloric outlet by adhesions; or they may be those of recurring painful attacks due to the passage of a stone out of the gall-bladder through the cystic duct and the common duct to the intestine. The patient's previous history thus becomes of considerable importance, giving evidence

* Read before the Cooper Clinical Society, Nov. 4, 1912.

of gall-bladder disturbance extending over a longer or shorter period of time before symptoms of a different character arise which indicate that a stone has lodged in the common duct.

Even when a stone does lodge in the common duct, two possibilities are open: the stone may become fixed or may remain free and movable. If it is fixed, the immediate result is persistent, deep jaundice from blocking of the lumen; but even so there are likely to be remissions from time to time, as some bile occasionally gets past. There is also more or less continuous pain of a dull character, but with exacerbations and acute colicky attacks. Finally there are irregular attacks of chill, fever and sweat, lasting but a few hours, with an apyretic interval. Ultimately a stone becomes movable, by dilatation of the duct above it, even though at first it is fixed.

The movable stone in the common duct gives rise to attacks of intermittent hepatic fever that are characteristic. These were first described by Charcot in 1877 and the symptom-complex still bears his name "Charcot fever." Later, in 1881, Osler described these cases fully and called attention to the significance of their peculiar symptoms. The diagnostic features are the occurrence of attacks of severe colicky pain in the epigastrium or right hypochondrium, radiating along the right costal margin and under the right shoulder blade; coincident with this pain or following it closely there is a chill, rise of temperature and sweat, the whole paroxysm of brief duration and giving rise on the temperature chart to peaks that have been described as "steeple-like;" finally, transitory jaundice follows each attack, with manifestations in conjunctivae, skin, urine and feces. These attacks come irregularly. Between them the patient has no pain, no chills, no fever and no jaundice, except that the skin is likely to remain muddy, sallow and dirty in appearance, even though the yellow tint disappears. With the repetition of attacks the patients gradually lose in weight and strength and their condition becomes one of chronic invalidism.

It is quite important to note that negative physical findings are the rule in these cases, except such as point to jaundice. Particularly is it noteworthy that the liver and gall-bladder are not enlarged; and, in general, it is the absence of discoverable organic abnormalities that is diagnostic, while their presence speaks for other complications or a condition altogether different from the one under consideration.

It remains to ask what other diseases may simulate this characteristic picture produced by stone lodged in the common duct. The one most nearly like it is malaria. In the case reported, as in others observed, the periodicity was remarkable, the chill coming at almost exactly the same hour every day; while the fever and sweat following and the hours of normal temperature intervening between paroxysms made the resemblance very close. But the characteristic pain of biliary colic that forms a part of the attack, the jaundice that follows and the leukocytosis that accompanies it can never be explained by malaria; the blood shows no parasites, and quinin does not cure. Liver abscess causes a dull continuous pain, not sharp attacks of colic; the fever is continuous, the leukocytosis is constant, and the liver is enlarged. Finally, cancer, that specter that always lurks in the background, must be given consideration as a possibility in every case. But cancer, to resemble the picture of stone in the common duct, must either involve the wall of the duct or, originating elsewhere, must press on the duct in such a way as to obstruct it. Chronic jaundice results in either case, variable in degree at different times; but in cancer there are none of the characteristic attacks of colic or of sepsis. The one important point on physical examination is the discovery of an enlarged gall-bladder; for as Courvoisier long ago pointed out, when jaundice is due to obstruction by a gall-stone the gall-bladder is small; but when it is due to cancer of the duct, the gall-bladder is large.

In conclusion, then, the diagnosis of gall-stones lodged in the common duct depends most on history, and though hours must sometimes be spent in eliciting it, the result is often in itself conclusive. The physical examination is of most value in eliminating other resembling conditions. But the final determination of the true nature of the affection comes from careful observation by the diagnostician of the course of events in the case, verifying the patient's own story, and from intelligent weighing and sifting of all the evidence, no matter how it is obtained.

ANOMALOUS INTERNAL CAROTID ARTERY AND ITS CLINICAL SIGNIFICANCE IN OPERATIONS ON TONSILS

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In view of the increasing number of operations on the tonsil because of the focusing of medical eyes on it as a primary source of metastatic infections, because of the discovery of more cases in the systematic inspection of schoolchildren, and because of the popularity of complete ablation of the tonsil in preference to partial tonsillectomy, a timely note of warning should be sounded of the liability of serious if not fatal hemorrhage from wounding a loop of an anomalous internal carotid artery. The following specimen, found in the Anatomical Laboratory of the University of Pennsylvania, serves as a striking example of this:

Anomalous Sigmoid Tortuosity of Cervical Portion of Internal Carotid Artery.—Specimen consists of left side of skull containing the internal carotid artery *in situ* and dissected free from surrounding tissues. The artery is of uniform caliber throughout its length, and its walls neither thickened nor calcareous. Beginning at the skull and extending two-thirds of the distance to the bifurcation of the common carotid artery, the vessel shows an S-shaped tortuosity, the bends of which extend at no time more than 1 cm. from a line representing the axis of the normal artery. The artery overreached from its normal position of about 2.5 cm. behind and to the outer side of the left tonsil over toward this organ. The right internal carotid artery was normal. Removed from male cadaver about 60 years of age.

This may be called the red-flag signal in approaching the tonsil. That disturber of Nature's sweet restorer, consecutive postoperative tonsillar hemorrhage, is usually due to wounding the congested tonsillar venous plexus, or enlarged branches of the ascending palatine, tonsillar, or ascending pharyngeal arteries. That bogey of bygone days, the internal carotid artery, while usually protected by its remoteness of 2.5 cm. from the tonsil and additionally by the pathologic thickening of the pharyngeal aponeurosis and superior constrictor, looms up as an actual reality when this great artery loops forward to the tonsil.

Wood[1] describes two examples—one in a girl aged 5, another in a boy aged 7—of this anomaly as follows:

> On the right side of the pharynx, projecting at times almost to the median line, is a large pulsating vessel about the size of a lead-pencil. By forcibly depressing the tongue, this blood-vessel can be seen running from below upward and slightly inward until it reaches a point about opposite the uvula, whence it takes a course slightly outward and upward.

A similar case has been observed by A. Brown Kelly.[2] Sack[3] found in a girl aged 10, who complained of throat trouble of long duration, a strongly pulsating carotid which coursed with a slight curve directly under the mucous membrane from below upward. Thompson[4] mentions a woman, aged 29, who suffered from catarrhal laryngitis, and in whom he found a strongly pulsating, large carotid artery on the left side immediately beneath the mucous membrane. Hulke[5] reports an example of great tortuosity of the common carotid artery simulating an aneurysm, and states that such looping of the carotid has been noticed more often at its upper part just before the artery enters the skull. McBride[6] writes

Sigmoid tortuosity of left internal carotid. Pharynx removed, but relation to palate can be seen.

of a case in which the posterior palatine pillar seemed to pulsate, and in which a large vessel was found immediately behind, and a systolic bruit was audible.

As regards sex, Moritz Schmidt[7] states that this anomaly is observed more frequently in women than in men. As to frequency, Demme,[8] who for ten years had looked for vascular anomalies in the pharynx at the request of Waldeyer and Fraenkel, saw, in 10,000 patients, pulsations of the pharyngeal wall in 2 per cent. He has seen anomalous carotids extending as vascular loops distinctly visible on the posterior wall of the pharynx between the vertebral column and the pharyngeal mucosa, although usually this vascular arch lies at the level of the apex of the tonsillar recess, appearing somewhat behind the tonsil from the side and visible as far as the torus eustachius. Often, he says, the coil begins to be distinctly visible at the level of the sinus pyriformis, but rarely extends beyond the fossa of Rosenmüller. He has often observed both internal carotids bent inwardly in such a way that at the pulse-beat both bends approached each other. Objective symptoms noted were tickling in the throat;[9] sensation of a movable foreign body;[9] and tinnitus compared to the hissing of escaping steam.[10]

The practical lesson this report teaches is to "stop, look and listen" before operating on any part of the pharynx. Since this anomaly may be present in any given case, thorough ocular and digital exploration of the pharynx for arterial pulsations must never be omitted. In case operation is indicated in the presence of this anomaly, preliminary ligature of the internal carotid opposite the upper border of the thyroid cartilage should be made. If doubt arises as to whether the anomalous artery is the ascending pharyngeal or the internal carotid, the common carotid artery should be occluded in the same situation with a Matas metal clip. If the artery be discovered and damaged during an operation, control of the situation may be effected by compressing the common carotid artery against Chassaignac's tubercle (the prominent anterior tubercle of the transverse process of the sixth cervical vertebra), and ligation then performed.

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1. Wood: Am. Jour. Med. Sc., 1902, n. s., cxxiv, 478.
2. Kelly, A. Brown: Cited by Burnett, Ingals, Newcomb in Diseases of Ear, Nose and Throat, 1901, p. 488.
3. Sack: Monatschr. f. Ohrenh., 1907, xli, 277.
4. Thompson: Milwaukee Med. Jour., 1898, vi, 12.
5. Hulke: Lancet, London, 1893, i, 1385.
6. McBride: Edinburgh Med. Jour., December, 1896, p. 510.
7. Schmidt, Moritz: Die Erkrankheiten der oberen Luftwege, 1909, p. 22.
8. Demme: Wien. med. Wchnschr., 1901, li, 48, 2245.
9. Kyle: Diseases of Nose and Throat, 1909, p. 479.
10. Burnett, Ingals, Newcomb: Diseases of Ear, Nose and Throat, 1901, p. 488.

PERSISTENT HYALOID ARTERY*

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There is no doubt that many cases of persistent hyaloid artery are unrecognized, and it is my object, as a general practitioner, to report a case as an aid to the pediatrician or the general practitioner who first sees one of these cases and may be at a loss to account for the complaint of a shadow or dark object floating before the eye, as well as the persistent headache or ocular pain which may accompany this condition. Or, as in the case which I shall report, a young child may shake its head to get the loose end of a persistent hyaloid artery out of the line of vision. There is usually defective vision, although Krauss[1] found the vision normal in both eyes of a colored woman aged 41, who complained of a dark object floating before her eyes, which she had noticed for three weeks. She also had symptoms of accommodative weakness, associated with headache and ocular pain.

In fetal life the hyaloid artery is continuous with the central artery of the optic nerve, generally extending as a single artery through the hyaloid canal to the posterior pole of the lens, where it branches into smaller vessels which supply the posterior vascular sheath of the lens. Instead of continuing as a single artery through the hyaloid canal it may divide several times. The artery does not usually extend to the center of the posterior pole of the lens, but a little to one side.

Fuchs[2] states that of the hyaloid artery normally the only thing that is left in the new-born is a short and slender cord which disappears during the first year of life.

* Read before the Chicago Pediatric Society, Nov. 19, 1912.
1. Krauss: Ophth. Rec., April, 1907.
2. Fuchs: Text-Book of Ophthalmology, Ed. 4, 1911, p. 534.

Shoemaker[3] reported a case of persistent hyaloid artery in both eyes. Ruewandl[4] observed in a man aged 31 not only the stem of the hyaloid artery, but also its distribution on the posterior capsule of the lens in form of a network of fine whitish threads, and the remnants of two blood-vessels of the vitreous branching off from a swelling of the stem of the artery, one upward and outward, the other downward and inward.

There may be other abnormalities present, as in the interesting case reported by Gärtner.[5] The patient was a girl aged 18 who had a bridge-coloboma of the iris and chorioid, accompanied by amblyopia, nystagmus, strabismus, deformity of the cornea with microcornea and microphthalmos.

The various anomalies are classified by Norris and Oliver[6] as follows:

1. The whole artery, with a cellular sheath around the posterior part of it, may remain as in the fetal eye, and continue to carry blood.

2. The artery may persist as a band through its whole length, but does not carry blood.

3. There may be a remnant of the artery attached to the optic disk which ends in a free extremity in the vitreous, and in which there is also an opacity at the back of the lens. The remnant attached to the disk is often a long, thin cord which is seen by the ophthalmoscope to lash about in an undulating way on movement of the eye.

4. The lenticular end of the artery may alone remain, its hindmost end being free and mobile in the vitreous. It is a variety which is rarely encountered. DeBeck[7] could find only eight recorded cases of it.

5. The neural end of the artery remains, the lenticular extremity having completely disappeared. This is the commonest variety of any. With the ophthalmoscope a thin, narrow cord is seen attached by one end to the optic disk, the other end being free in the vitreous. The free end may be knob-like or tapering. It generally oscillates with an undulating motion on movement of the eye, but occasionally is fixed and immobile.

6. The artery may become obliterated, but the sheath may remain as fibrous membranes or shreds of tissue attached to the optic disk filling up the depression normally left in the nerve-head by the divergence of the nerve-fibers.

7. Little rounded bodies of a steel-gray color, which appear to be fluid-containing cysts attached to the optic disk, are occasionally met as a congenital abnormality, and must in some way be connected with the fetal vascular apparatus for the persistent sheath of cystic distentions of the artery itself.

8. Some observers have seen appearances in the vitreous which they have thought pointed to persistence of the hyaline canal in which the artery lies, it and its cellular sheath having disappeared.

9. Many of the congenital opacities at the posterior pole of the lens are probably due to persistence of portions of the fibrovascular sheath of the lens, the vessels of which are derived in the fetal state from the division of the central hyaloid artery.

REPORT OF A CASE

In 1910 I was called to see Miss K. C., aged 13, who had been having persistent headaches ever since early childhood. There never had been any ocular pain. The sight in the left eye was much impaired and if the right eye was covered the patient could read only the large and heavy letters of the headlines of the daily papers, while the small or fine print could not be seen.

The patient also complained of a shadow which kept moving in front of the left eye. This was not so noticeable when using both eyes, but if the right eye was covered it was quite marked.

The father stated that when the patient was a baby, if he would go into the room where she was sitting she would shake her head two or three times before recognizing him. As the patient grew older this passed away.

The past history of the patient is negative. The father is a strong, robust man who keeps a saloon, but is outside most of the time doing mason and cement work. The mother is also in excellent health, but says that she has shadows pass before her eyes if she reads very long or if the eyes get tired doing needle-work. Dr. F. I. Brown examined her eyes, however, and found them normal except for accommodative weakness.

I referred the patient to Dr. Brown, who examined the eyes thoroughly Sept. 15, 1910, and gave the following description of the conditions found:

"The external parts of both eyes are normal except for a mild form of conjunctivitis. Pupil reactions are normal to light and accommodation. Cornea and iris normal.

"Examination of the interior of the eyes shows the right eye normal, and a posterior polar cataract in the left eye.

"In the vitreous chamber I find projecting from the disk a long, slender object which moves freely in the vitreous when the position of the eye is changed. This is attached by the posterior extremity to the optic disk and extends a little more than half way to the posterior capsule of the lens. This condition is known as persistent hyaloid artery and is quite frequent. Its presence lowers the vision of the left eye to 20/200, but vision is slightly improved with a + 2 sphere as her left eye is hypermetropic to that extent.

"The patient has one-half diopter of astigmatism in her right eye, which probably accounts for her severe headaches when she uses her eyes excessively."

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3. Shoemaker: Ann. Ophth., April, 1906.
4. Ruewandl: Ztschr. f. Augenh., 1906, p. 245.
5. Gärtner, C.: Beitr. z. Augenh., 1909, lxxiv, 232.
6. Norris and Oliver: System of Disease of the Eye, 1897, i, 454.
7. DeBeck: Persistent Remains of the Fetal Hyaloid Artery, Am. Ophth. Monog., Cincinnati, 1890-1891, iii, 1.

REPORTS OF UTERINE MALFORMATIONS

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Many text-books on gynecology assert that a double uterus, or the absence of the uterus, is a rare occurrence. This has not been my experience. Although my surgical work is confined entirely to private patients, I have seen half a dozen of these anomalies in the course of a few years, so that I can but wonder why in the large clinics embracing the enormous amount of charity and private surgical work, they should be classed as "extremely rare."

These malformations are caused by developmental defects in the early embryonic stage. The vagina and uterus are both developed by the coalescence of the lower two-thirds of the müllerian ducts, and the absorption of their inner wall. If these ducts fail to unite, or the septum is not absorbed, a deformity results to a more or less extent. If the ducts unite and the septum persists there will be a double cavity, but the uterus is normal externally. If the ducts do not unite at all, there will be two separate uterine bodies. The absence of a uterus is said by Kelly and other writers to be an "extremely rare condition." This malformation is caused by the absence or the imperfect development of the müllerian ducts.

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The three following cases seen by me would lead one to conclude that the condition was not so extremely rare:

CASE 1.—Mrs. B., of Bessemer, came to me on June 1, 1909, saying a separation from her husband had resulted on account of her inability to fulfil the requirements of married life, and requested that I do something from a surgical standpoint to overcome this deformity. Her past history as to any serious illness was negative. She had never menstruated; her age was 19 years; she had the appearance of a robust, healthy girl. The breasts, labia majora, labia minora and clitoris were normal. The vagina was about 2 inches deep, ending in a blind pouch. Rectal examination disclosed a large mass in the pelvis just posterior to the bladder. Supposing this to be the uterus, I thought that perhaps the vagina could be made to connect with it and advised operation. The patient said that a former attempt had been made to dissect up to this mass from the vagina, but that failure had resulted.

The operation was begun by opening the abdomen, and the mass was found to be post-peritoneal. On incising the posterior peritoneal cavity or covering, I came on the mass, which was covered with fat and was recognized to be a double kidney, with the two ureters opening up into the bladder. These seemed to be about 1 inch in length. On making a search for the kidneys in their proper location I was unable, of course, to find them there. There was nothing that resembled a uterus, ovary or tube. The broad ligaments seemed to come together in the midline. I closed the abdomen without doing anything for the patient, who made a good recovery.

CASE 2.—Nov. 17, 1911, a young woman was brought to the infirmary by Dr. Givham. The patient was suffering with a severe attack of appendicitis. Temperature at the time was 103.4 F., pulse 124, leukocyte count 16,000, and there were other symptoms of an acute appendicitis. She had never menstruated. Operation was advised and the patient at once sent to operating-room. The incision was made along the outer edge of the right rectus muscle, and on incising the anterior parietal peritoneum, I came down on a second layer of peritoneum which could be pressed back, and the entire hand and forearm introduced into a very large cavity. On the withdrawal of the hand this peritoneum would come in contact with that lining the abdominal wall. After determining that there were no abdominal viscera in this cavity, I incised the next layer of peritoneum and found the intestines in this cavity which had no posterior peritoneal lining. I began the search for the appendix, which was found in the left inguinal region. A second incision was made in this region and through it the appendix was removed and drainage established, as the appendix was in a bad condition. The search of the abdomen revealed the fact that the uterus, ovaries and tubes were absent in this case.

After convalescence was well under way I made some further investigation and found that the breasts, labia majora, labia minora and clitoris were normal, and that the vagina was only a few inches in depth. I regret that I did not ascertain whether or not the stomach and liver were in the anterior or posterior cavity, but I was so occupied in the lower abdomen that I overlooked the investigation of the upper abdomen. This girl left the infirmary after three weeks.

CASE 3.—This was one in which the uterus was absent, and only one ovary was present. Also two testicles were found in the labia majora. A report of this case has appeared in THE JOURNAL.[1]

1. Prince, E. M.: A Case of True Hermaphrodism, THE JOURNAL A. M. A., April 27, 1912, p. 1278.

CASE 4.—The patient was a married woman, aged 38 years. Figure 1 shows a double uterus which was removed Aug. 14, 1908. The woman had borne four children; at the birth of the last child she had quite a severe infection which left her with the double pus tubes shown in the illustration. The cervix opened into the vagina by two separate openings, surrounded by one common cervical ring. The woman made an uninterrupted recovery.

CASE 5.—The patient, a married woman, aged 34, was operated on Nov. 13, 1911. The uteri were bound down in the pelvis and were very tender to the touch. The patient had borne no children, and was of a very nervous temperament. The uteri opened into the vagina by one common cervical canal. One ovary was removed, as shown in Figure 2. The patient made a good recovery, and since operation has been in perfect health.

CASE 6.—The patient was an unmarried girl, fleshy, robust and well-developed, aged 18 years, operated on May 19, 1912.

Fig. 1.—Double uterus, Case 4.

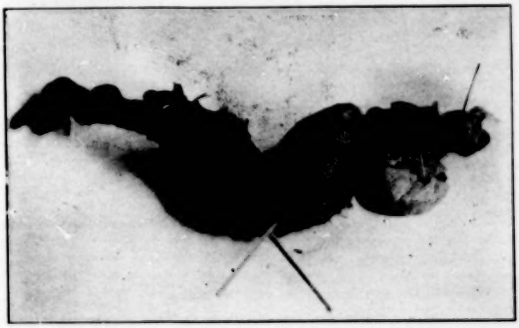

Fig. 2.—Double uterus with one ovary, Case 5.

Her past history was negative, except that for the past year she had suffered from three attacks of appendicitis, and during this time had indigestion and constipation. Her menstrual history had been normal in every respect, with the exception of a slight pain at the time of the flow. On examination she complained of pain on pressure in the right inguinal region, and I was of the opinion that I could feel a mass in this location. The leukocyte count was 8,500, temperature 99 F. and pulse 116. The diagnosis of appendicitis was concurred in and operation advised. On making a small McBurney incision the first thing I encountered was the omentum, which was perfectly black, together with all the contents of the abdominal cavity. I then found a mass in the right side, extending over into the midline, which I saw could best be dealt with through a median incision, which was made, and two uterine bodies were found with this large mass beneath them, which mass was perfectly black, as were the surrounding tissues. I then

suspected the true condition present, and called attention to it: there was a double vagina; one was passing out the menstrual flow; the other, the hymen (?) being unruptured, was retaining it, and the menstrual accumulation was being squeezed out by pressure through the distended vagina. This blood was being taken up by the omentum and the surrounding tissues, which gave to them the very dark appearance. Much of this blood had seemingly become organized on the tissues, and could not be removed. The appendix was found to be covered with this dark material and inflamed. It was removed. The mass was incised posteriorly, and an enormous amount of clotted blood was removed; the membrane was ruptured at the lower opening of the closed vagina, in order that there might be drainage through the vaginal and abdominal incisions. As to what was best to be done with the omentum and other surrounding tissues it was hard to decide, but I concluded that the best policy was to let them alone, and depend on drainage and nature to care for the problem. The patient was returned to bed and for two days her temperature and pulse ran normal. On the third day the temperature rose to 99.2 F.; pulse, 108, and she began to vomit. Enema was given and bowels moved freely. She continued to vomit and the temperature and pulse continued to rise a little higher, until on the fifth day I decided to open the abdomen again, which was done, and it was found to be full of what seemed to be broken-down blood-clots, and a great quantity of serum, which had become pocketed. The uteri were very dark and

Fig. 3.—Double uterus with one ovary, Case 6.

were bound down by adhesions. A great quantity of fluid had again collected in the vaginae, which had been drained in two directions. I decided that hysterectomy was the best procedure on account of the appearance of the uteri and tubes, and this was done. The two vaginas were demonstrated to be separate and distinct. The lumina of both tubes were full of the dark material. One ovary only was removed (Fig. 3). The girl died within twenty-four hours from shock and peritonitis.

A peculiar point in these cases is that three patients were without uteri, and three had double uteri.

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Myelitis and Neuritis of Psychic Origin.—M. Bernheim reports in the *Revue Médicale de l'Est*, 1912, xliv, 21, eight cases in which grave organic lesions—neuritis or myelitis—followed severe emotional shocks of various kinds. He maintains that these conditions are caused by auto-intoxication brought about by the psychic disturbance, just as gastritis, enteritis, jaundice or urticaria may be caused in a similar way. He refers to the work of Roux, who has shown that in states of psychic depression creatinin and other animal albuminoids are excreted in abnormally small quantities. These cases must be carefully differentiated from purely hysteric ones in which there is never development of any organic lesion. It is possible, however, that hysteric states may coexist with organic disease.

FAMILY PERNICIOUS ANEMIA

WITH REPORT OF CASES

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Pernicious anemia is no longer to be regarded as a rare disease. It is fairly common, and, as Cabot well says, is most common wherever most carefully searched for. As a family affection it appears rare. In a somewhat cursory examination of the literature I have found but few reported instances of multiple cases of the disease in the same family. Ehrlich and Lazarus in their extensive article on "Pernicious Anemia" in Nothnagel's "Encyclopedia of Medicine" state that there is no evidence in the literature that heredity plays any rôle in the origin of the disease. They add: "The report by Sinkler and Eshner, quoted in all books, of three cases of essential anemia in one family, is so incomplete that it is useless. Schmaltz quotes an observation of Klein's who saw a brother and sister succumb to progressive anemia." They make no further mention of multiple cases in single families. Cabot, writing in Osler's "Modern Medicine," says that he has seen two sisters with the disease in one family and a brother and a sister in another family. Altogether up to that time he had seen 337 cases of the disease. Ellermann[1] refers to Weil and Gilbert as reporting pernicious anemia in two brothers and in the child of one of them. I have not had access to the original article. The most remarkable series of family cases of the disease which I have met was reported by Patek.[2] These are particularly interesting because of the care with which he has been able to follow them over a period of ten years or more. In his series two brothers and a sister died of pernicious anemia; two other sisters of the family had secondary anemia, one of a severe type; a paternal cousin had the pernicious form of the disease, dying of some terminal infection; and an uncle of the family of five referred to above died of what appears to have been the same trouble.

For some years I have been interested in what seemed to be an instance of family pernicious anemia, several cases of the disease occurring in one family. This family lived in the northern part of Vermont. A close professional friend of mine, a relative of the family, had repeatedly called my attention to the number of cases of anemia occurring among its members and I had the opportunity some years ago to make the blood examination in one of these cases and later to perform an autopsy in the same case. Accordingly when I was asked to examine another member of the family nearly two years ago and again found a typical case of pernicious anemia my interest was further stimulated. I have had opportunity for repeated study of this case and some months ago I visited the locality where the family has lived for years in order to see if any evident cause for the condition could be discovered. As will develop in the discussion of these cases, blood examinations were not made in some of them which I have included in the list. We have here to rely on the symptoms, fatal

1. Ellermann: Ugesk. f. Læger., 1911, lxxiii, 1485.
2. Patek, Arthur J.: Family Pernicious Anemia, THE JOURNAL A. M. A., May 6, 1911, p. 1315.

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outcome and autopsy findings for the diagnosis. These tally closely with those cases in which blood examinations have confirmed the diagnosis. And further the condition has come to be so well recognized by the local physicians as differing from others which they meet that they refer to it as *the* anemia.

The family under consideration consisted of the parents, five sons and one daughter. Another son died in childhood of scarlet fever and has not been included here. They are of Scotch descent and belong to the class of well-to-do farmers. The conditions of life, which will be referred to later, were good. Of the eight members of this family, the father and three sons have died of anemia, while the daughter has marked secondary anemia. The mother, though decidedly anemic for years, had symptoms so unlike the others that it is probable that her death was not due to primary anemia. The brief outline of the cases follows:

REPORT OF CASES

CASE 1.—The father T. died when 43 or 44 years old. He was born on the same farm where he spent his whole life with the exception of a short period after his marriage. He was married at the age of 23, and for four years lived about a mile from the home farm. Following this he returned to the old place. From the time he was 19 the patient was never rugged. He had bilious attacks, particularly in the spring, but there was no history recalled of any more serious illness until about four years before his death, when an enlargement of the neck on both sides and in front began. This mass appears to have reached considerable size and remained some months. It did not suppurate. Also for a short time there was an enlarged node in one axilla. These nodules disappeared, but from this time on he was constantly ailing, and was under the physician's care periodically for two years before death. During the latter part of this sickness he developed the slight yellow color and extreme weakness with peculiar sensations in his legs which have characterized all of these cases. He did not emaciate and he developed some edema; he had nosebleed occasionally. He was troubled much of the time with a sore tongue and mouth. Indigestion was present with a dislike for sweets but a craving for cream and other rich foods. The autopsy did not show the cause of death or anything to account for the apparent anemia. This report has been obtained from relatives and from local physicians who knew about the case. Those who attended the patient and made the autopsy are no longer living. I appreciate its lack of scientific accuracy and have included it here simply because it has all the earmarks of this group of cases.

CASE 2.—The preceding patient's wife died at 60. For years she had been emaciated and anemic. Six or eight years before death she was practically blind from double cataracts, and the ophthalmologist who was consulted refused for some time to operate because of the anemic condition. Somewhat later the operation was done with good results. In spite of the apparent anemia in this case, it does not appear probable that it was of the pernicious type. The sore mouth, the repeated bilious attacks, the extreme weakness with difficulty in using the legs and the slight yellow, waxy color which characterized the other fatal cases in this family appear to have been lacking here. On the other hand, the patient was markedly emaciated. The cause of death was undetermined. No autopsy was made.

CASE 3.—F., the second son, was the first of the five children to die. He was a healthy boy though he had the usual children's diseases. He appeared anemic for three years before death. He lived on the home place, worked on the farm a part of the time and for a portion of the time in a saw-mill. After becoming too weak to keep up this laborious employment he went to a small village a few miles away where he was engaged in a store two years before his death, which occurred at 29. His sickness, like that of the other sons, began with bilious attacks in the spring of the year. He, like the others, had a sore mouth, with tongue cracked and so tender that it bothered him about eating. Also he complained about soreness of the anus. He had the usual waxy color and gradually became so weak he could hardly move around, but was confined to the bed for only a few days before death. Here again we lack blood examinations, but an autopsy was performed at which Dr. Jay W. Seaver of New Haven, Conn., was present. Nothing was found at autopsy except the extreme anemia, flabby heart, etc., unless it was chronic nephritis. One of the kidneys was sent to me for examination and I did not find evidence of this condition. Clinically and at autopsy the case was one of fatal anemia with no cause discovered.

CASE 4.—W., the eldest son, a farmer, died at 35 of pernicious anemia. This was nearly twelve years ago. I saw the patient once a few days before death. The picture with its waxy paleness was the typical one of the disease. Although I did not make a physical examination of the patient, I did make a single examination of the blood and urine and a few days later made an autopsy. The urine gave no evidence of nephritis. The blood examination showed red blood-corpuscles 475,000; hemoglobin approximately 14 per cent.; leukocytes 1,840. No nucleated reds were seen.

At autopsy there was found the extreme paleness of the organs characteristic of the disease without any discoverable cause for the anemia. The history is much like that of the others except that the patient was not so rugged. He had the usual diseases of childhood. His father died when he was young and, as the oldest son, he had the care of the work on a large farm. After he was 18 or 20 he could not endure the hard work that the others did, and was pale. For three or four years before death he had considerable bleeding from the nose, one summer having the nostrils plugged much of the time. Nothing else suggesting hemophilia was present in the case. His legs were so weak that for about three years before death he had difficulty in walking. He developed the typical waxy color. He was married three years before death. About a year before death there is a history of his becoming unconscious, and from this time there was permanent blindness in one eye, and the face on that side showed evidence of a slight degree of paralysis of the facial muscles.

CASE 5.—I., a farmer, aged 30, the next to the youngest son, is the patient whom I have had an opportunity to study somewhat carefully. His was a typical case of pernicious anemia with a fatal termination a few months ago. Aside from the acute infectious diseases of childhood he had no other serious illness until about eight years ago. Before this, however, he had had spells of vomiting once a month or six weeks for years and often had sick headache with such an upset, and was worse in the spring. This indigestion may have been due to his continual indiscretion in diet, as he ate much sweet food and always ate in the evening before going to bed. He was a consistently hard worker from 5 a. m. to 7 p. m. When 31 years old, while serving as a juryman at the county seat, he had an attack of vomiting and diarrhea with jaundice. This was in March. That this was more than an ordinary case of catarrhal duodenitis would appear from the fact that he continued to grow worse and was confined to his bed during April, was still sick in May and was poorly all summer (typhoid fever?). He was jaundiced and there was diarrhea during this time. Even during the fall he continued to have attacks of vomiting and diarrhea. The following spring he was still sallow with the same evidences of indigestion. Following this he was limited in his diet by Dr. Seaver and he entirely recovered his health, and appeared quite well for five years. In January or February, 1911, he found difficulty about doing his work. He had to sit down frequently to rest. Without any acute illness he gradually became weaker through the spring until he could walk only a short distance without resting. In May of that year he came to New Haven, where I saw him. He was a strongly built man, not emaciated, with a typical waxy color and was extremely pale and weak. The eyes showed a slight yellowish color of the sclera. Accommodation was normal. There were no enlarged nodes of the neck. The tongue, aside from its anemic condition, was normal. Examination of the teeth showed those remaining in good condition except for one root, but so many of the molars were gone that there were no teeth back of the canines of any use for mastica-

tion. The tonsils were not enlarged. The chest was broad with fair expansion. The percussion note was good over the entire chest with breath sounds clear.

Heart: The apex was a little inside the nipple line and the right border did not extend beyond the right edge of the sternum. There was a loud blowing murmur over the whole lower part of the precordial region, heard faintly at the base of the heart and transmitted toward the axilla but not heard distinctly in the axilla. Neither the second aortic nor the second pulmonic sounds was exaggerated. Pulse, 84, regular, quite full, easily compressed. Radial artery not thickened.

The liver did not extend below the free border of the ribs and was not tender on pressure. The spleen was barely felt on full inspiration, and there was a little tenderness on deep pressure over it. The abdomen was not distended. The stomach extended about 3 cm. below the costal margin. There was some tenderness on deep pressure over the abdomen, particularly over the lower part of the descending colon and in the region of the sigmoid flexure. No masses were made out in the abdomen. The kidneys were not felt. There were no enlarged nodes in the groin. The tibiae were smooth. There was no edema of ankles. Tenderness was present on pressure on the under surface of each heel. Knee-jerks were more lively than normal. There was no ankle-clonus.

The first blood examination, made May 20, 1911, gave hemoglobin, 35 per cent.; red corpuscles, 1,420,000; white corpuscles, 6,400. The red cells showed considerable poikilocytosis, and variation in size. No nucleated red corpuscles were found at this examination. The urine examination gave negative results except for the presence of abundant indican. During the summer and fall of that year the improvement under arsenic was rapid. On August 9 the blood examination gave hemoglobin, 85 per cent.; red corpuscles, 5,400,000; leukocytes, 2,900. A differential count of leukocytes gave 16 per cent. eosinophils. The patient appeared and felt well. In the winter and spring recurrence of the symptoms developed rapidly. The blood examination made in December, 1911, and in January, February and March, 1912, again gave the characteristic picture of pernicious anemia with the exception of some eosinophilia. February 18 the hemoglobin was 35 per cent.; red corpuscles, 1,400,000; leukocytes, 2,800. When 300 leukocytes were counted, seven nucleated red corpuscles, chiefly megaloblasts, were seen. The differential count of the leukocytes gave polymorphonuclears, 50.3 per cent.; small mononuclears, 23.3 per cent.; large mononuclears, 13 per cent.; eosinophils, 12 per cent.; basophils, 0.7 per cent.; myelocytes, 0.7 per cent.

March 10, the red corpuscles had fallen to 980,000 and the hemoglobin to 20 per cent. Most of the nucleated cells were megaloblasts. The eosinophils were 5.4 per cent. of all leukocytes. This was the last blood examination made as the patient returned to his home shortly after this and died there in June, 1912. No autopsy was made in this case.

It may be worth recording that one intravenous injection of salvarsan was given without any beneficial results. This was not done on the supposition that the patient had syphilis, as this could be excluded by the history and by a negative Wassermann test. It was used when the arsenic given by the mouth no longer produced satisfactory results in the hope that arsenic in the larger quantity might be of value, and because of the favorable results which appear to have been obtained by its use in the few reported cases in which it has been used in pernicious anemia.

The relative high percentage of eosinophils suggested an examination of the stools for intestinal parasites. Repeated search failed to show any ova present. According to Cabot,[3] however, a relative increase in the eosinophils is not uncommon in pernicious anemia, being reported in 83 of 389 cases as over 7 per cent. He says that fluctuations in the number of eosinophils is rapid and has no known significance. The stools constantly contained large numbers of Gram-positive bacilli, thus agreeing with Herter's[4] findings in this class of cases. The urine did not give evidence of nephritis at any of the examinations but constantly contained a large amount of indican.

3. Cabot: Osler's Modern Medicine, iv, 612.
4. Herter: Jour. Biol. Chem., 1906, ii.

Case 6.—A few words should be said about the sister of these brothers. She is 49 years old. She lived at her father's house until her marriage and since then has lived only about half a mile from there. She is well developed but her appearance immediately suggests pernicious anemia. The two examinations of blood which I have made do not confirm this. In June, 1911, the red corpuscles were a little over 5,000,000, the hemoglobin 40 per cent. and the leukocytes 5,800. Her history is interesting. As a girl she was unusually sleepy and this condition has persisted so that when sitting up, even riding, she will drop off to sleep a few minutes in spite of her efforts not to do so. She has always had difficulty about walking ever since she was 18 or 19, but has improved in this respect in the last few years so that now she can do a part of her housework. She has been as pale as now, or paler, for nearly twenty years. She has had three children, all healthy. I did not have an opportunity to study this case sufficiently. A superficial examination of the chest through the clothing showed an enlarged heart with a systolic murmur transmitted to the apex. The urine examination was negative for albumin, indican and casts. An examination of the stools for ova gave negative results. Her condition appears to be a persisting chlorosis or a marked secondary anemia.

The two sons of the family still living, when examined about eighteen months ago, showed no symptoms of the disease. It is noteworthy that they have been away from the old home more than the other members had, one of them living in an adjoining town and the other, though living only about a mile from the home farm, frequently going off for trips to some distance. The younger of these two, who is also the youngest member of the family, now 36, has frequent epistaxis which is hard to control but shows nothing else suggesting hemophilia.

We have then in this family of eight, within a period of thirty years, four deaths, two of them definitely due to pernicious anemia, and the other two, judging by the most evident symptoms and the autopsy findings, also due to the same disease; also another case of marked prolonged anemia, of either the chlorotic or secondary type. All five patients lived either on the home farm or, in one case, a short distance from this nearly all their lives.

I had hoped to find some condition to account for this rare instance of family anemia. The first thought naturally was of intestinal parasites, particularly of the *Dibothriocephalus latus*. No history of tapeworm being passed could be obtained and the examination of the stools for ova in the cases of the fifth patient (I.) and his sister were negative. And, in fact, there is no reason to suspect that this rare parasite should be found in the locality where these cases occurred.

The house occupied by this family was in a valley. On one side of the house the ground was somewhat marshy, enough to provide a breeding-place for mosquitoes, which in fact are numerous. Malaria does not appear to occur there. The water-supply was the chief thing which aroused my suspicions. It came through an iron pipe about 60 rods from a spring located only a short distance from the buildings on a neighboring farm and on a lower level than the stables and yards of this farm. An opportunity for contamination of the water-supply seemed possible. The same supply, however, had been used for many years by two other families living in the buildings just mentioned without any evident injurious results.

One factor stands out prominently in the four fatal cases. That is the evidence of disturbance in the digestive tract. Most of the patients complained of continued sore mouth and tongue. Each had repeated attacks of bilious vomiting. They felt that these came on more often in the spring, and as that is the season of the year when maple sugar is made and eaten in large amount

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a popular belief obtains locally that the eating of this is in some way connected with the beginning of the disease. Further evidence of intestinal trouble was noted in the case reported at length in which the urine was continually loaded with indican.

The information obtained regarding the parents of Patient 1 (T.) and his brothers and sisters was rather meager. His father appears to have been very robust, "never sick a day in his life" and was killed by an accident when between 60 and 70 years old. His mother died when rather young after a prolonged illness, probably pulmonary tuberculosis. T. had three own brothers and one half-brother, and two own sisters and one half-sister. Two of the sisters are living and are said to be healthy. The third died when 19 years of age of appendicitis(?). The half-brother died when about 40 years of age, and the cause I have not learned. Of the other three brothers, one is living and well at 76 years of age. One of the other two lived about two miles from T.'s home and died when 60 or 65 years of age. He was sick for about three years, did not emaciate, and appeared to his relatives to be in the same condition that T. was. He had loss of power of his legs. I have not learned whether or not an autopsy was performed. The other brother went to Nebraska when between 30 and 40 years of age. After a period of thirty years he returned to the old home for a visit in the early spring, apparently in good health. Shortly after reaching there he had acute indigestion with vomiting of bile. During the four months he was there he continued to get worse and lost partially the use of his legs. No blood examination was made. His physicians considered the symptoms similar to those seen in the several members of T.'s family and advised his removal to Nebraska where he apparently recovered but died the following spring. The nature of his final illness I have not learned.

In conversation with physicians who cover this district as well as several of the adjoining towns in their practice, I found them confident that this portion of their territory within a few miles of the residence of the family that I have discussed has more unexplained anemia than they see elsewhere, and that this includes the anemia of young women. They will tell you of a man who had the typical symptoms and at autopsy showed nothing except anemia; of another who was sick for four or five years and showed the same waxy picture together with the other usual symptoms; of the minister who came to one of their little villages, drank cistern water, developed symptoms of the disease, and died within five or six months; and so on. I appreciate that this has not been controlled by any modern methods of diagnosis and can only be accepted as of interest in any study of these cases. I know, however, that the most pronounced case of chlorosis that I have met for years was seen recently in a girl in college in Boston who came from this district; also that I saw one other case, that of a man living but a few miles from this farm which I have so frequently mentioned. He was suspected of having the anemia, and a blood examination showed this to be correct (pernicious anemia) and he has since died of the disease with his hemoglobin at least reduced to 10 per cent. The impression which I gained is that there is some ground for the belief of these physicians—that for some reason there is in this particular region an unusual amount of severe anemia and that its cause offers an interesting problem for some one to solve.

I am indebted to Dr. J. W. Seaver, New Haven, Conn., for calling my attention to these cases and affording me an opportunity to study them, and to Dr. C. W. Dustin and Dr. William E. Bailey of Craftsbury, Vt., for courtesies shown, and wish to express my appreciation to them.

300 Humphrey Street.

CORRECTION OF NASAL DEFORMITIES

PARTICULARLY EXTERNAL LATERAL DEFLECTIONS AND DEPRESSIONS WITH OBSTRUCTING DEVIATIONS OF THE SEPTUM

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All degrees of the above-mentioned deformities exist. This paper is concerned with disfiguring deformities only, most of which are combined with serious nasal obstruction. Commonly they have resulted from blows or falls, especially from baseball, football or fist encounters, yet, strangely enough, many unsightly nasal deformities start in infancy, with no record of injury. In the early period, before ossification has made much headway, the frequent habit in a child of lying always on one side of the face may undoubtedly result not only in a marked deviation but also in depression, and the frequent trick of flattening the nose in bed, against the window-pane or the school desk is not without its effect. Then the nasal processes of the superior maxillary bones, the chief buttresses of the nose, may, with advancing ossification, be fixed in a lower plane, in which case the nasal septum must adapt its redundant tissue to its abnormally limited space by single or double lateral curves or by sharp angular deflections, obtruding into and obstructing the nasal passages. With the approach of puberty, the nose enlarges, but the abnormal position of the bone continues and the disfigurement is emphasized to an unsightly and often mortifying degree. It is at this time that the patient often seeks for relief, and although nasal obstruction may be making inroads on the health or hearing, pride as to personal appearance is the moving factor for seeking relief.

Fig. 1.—Patient with nasal deformity, before operation.

A radical operation such as I am about to describe is likely to give a brilliant result, not only as to the external appearance but to the free nasal breathing. The

septum, when once freed from the depressing effect of these lowered flying buttresses which are now to be elevated, is allowed to rise and straighten, thus overcoming at once the deformity of depression and the obstruction of nasal breathing. At the same time a straight alignment is made, and the nose is brought to the middle point. Often, however, a submucous operation on the septum must follow in order to free completely the nasal obstruction.

HISTORY OF THE OPERATION

About seven years ago, during my service in the throat and nose department of the Philadelphia General Hospital, three house patients applied to me in one day, each with a nose unsightly and misshapen, from violent encounters. The time that had elapsed since the accidents ranged from seven to twenty-three years. The men were anxious to have their noses straightened, as they said their personal appearance was against them in getting work. They had been refused operation in two hospitals, which was perhaps natural as they were very unpromising-looking candidates. The fact that they were so earnest, however, induced me to undertake the work.

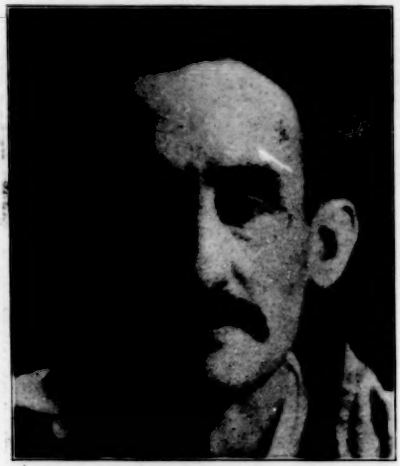

Fig. 2.—Patient shown in Figure 1, after operation.

Fig. 3.—Patient with nasal deformity, before operation.

I then devised the following operation and applied it to the three men at one time; five or six weeks afterward I presented the three patients to the College of Physicians with the description of the operation. Now, after about thirty additional cases, I shall describe the operation in detail.

The operation is indicated in cases in which the external nose departs markedly from the straight line or is depressed on one or both sides, especially if, in addition, the breathing is obstructed by the external deformities, which are apt to produce a deflected septum or to force the turbinates to hypertrophy because of their vicious position. The essential feature of the operation is to cut through the nasal process of the superior maxillary bone, avoiding injury to the lacrimal duct.

TECHNIC

The patient is admitted to the hospital the day before the operation; the urine is examined, the nasal passages thoroughly cleansed, the skin of the nasal region thoroughly scrubbed and left for the night with an antiseptic dressing over the surface. In the morning the patient is etherized, the dressing removed, the skin washed with alcohol and an incision made with a narrow-bladed knife directly over the nasal process of the superior maxillary bone at the point where the elevation which makes the nasal prominence begins. The incision is made parallel with the normal line of the nose, a length of about 0.25 cm. Pressure is made at this point, after the incision, with a beveled chisel, the width of whose blade is about the length of the incision. With a light blow of a mallet the chisel penetrates the nasal process at this point, great care being observed not to go beyond the bone. Without enlarging the skin incision, the chisel may cut the bone as far as desired. After the chisel is withdrawn pressure is again instituted by an assistant, while the operator proceeds in like manner with the opposite side. Then by means of a long-handled, broad-bladed forceps, such as the Ashe septal forceps, or better still if the blades are longer and heavier, such as I myself use, the operator enters the nasal passage with one blade, the opposite blade remaining outside, completing by a fracture the mobility of the nasal process along its entire line, for the upper part of the nasal process can usually be made mobile at the sutures along the lacrimal bone and the nasal bone on the corresponding side. The operator proceeds in like manner with the opposite side. If there is a nasal obstruction through the malposition of the septum, the septum is seized with the broad blade of the same forceps and forced into a correct position, by loosening its articulations without separating them. In many cases the

septum takes a correct position, as if released from the compression of the superimposed nasal bones and nasal process of the superior maxillary, but it is chiefly the latter which I consider the key to the situation.

The nose is not likely yet to be in a straight line, the defect lying at the suture between the frontal and upper extremities of the two nasal bones and both processes of the superior maxillary. This faulty angle can be straightened by a sharp stroke with the mallet at this point guarded by a rubber-covered lead plate, the force being directed downward from the frontal bone, but toward the obtuse angle (that is, against the deflected side). Elevation can be assisted sometimes to advantage with a large urethral sound. If pressure has been kept on the point of incision for a few minutes, there should be no extravasation of blood, and the wound

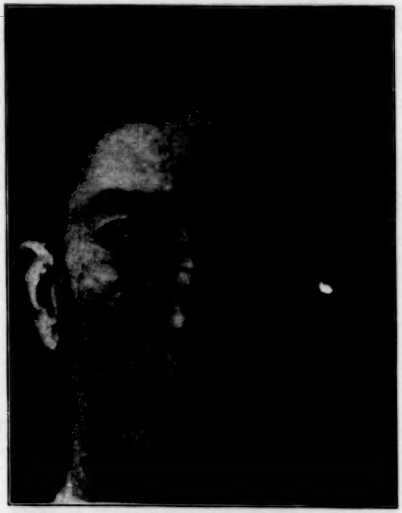

Fig. 4.—Patient shown in Figure 3, after operation.

will heal by first intention. It is my custom to keep these lines of incision covered by a bit of iodoform gauze and collodion. In some cases I insert nasal splints for twenty-four hours or more, to insure continuance of the correct position of the septum. The lower part of the external nose is incased in a collodion dressing. Before the final dressing is applied, the nose should be absolutely straight without being held in position.

For several days after the operation the patient is instructed to keep a moderate pressure on the originally deflected side as there is a tendency of the old position to be resumed. I have no doubt that you would suggest that the pressure be made by artificial means, arranging a cage with thumb-screws. This I advise against for the following reasons:

It is uncomfortable for the patient, and I believe that all such apparatus will unavoidably in some manner get out of place and result in faulty pressure.

Unless constant pressure be kept at the point of incision for a few minutes, extravasation of the blood is likely to cause a discoloration of the skin, which may persist for a week or ten days. This occurred in several of my cases. Infection appeared in two of my cases. One was due to the chisel passing beyond the nasal process into the nasal passage, thus making a double compound facture. The infection delayed the healing for about two weeks. In only one case—one of the two cases of infection—did the lacrimal duct give trouble. It continued, however, only during the few days of infection.

The reason for applying pressure after the first day—to insure the knitting of the bone in its new position—should be explained to the patient. I believe that the only unsatisfactory results have occurred from neglect of this precaution.

This operation does not restore bones that are lost, but it has the following points to recommend it:

1. It radically and simply corrects the position of the misplaced bones and relieves the disfigurement, the mental depression and the social disadvantages consequent on it.

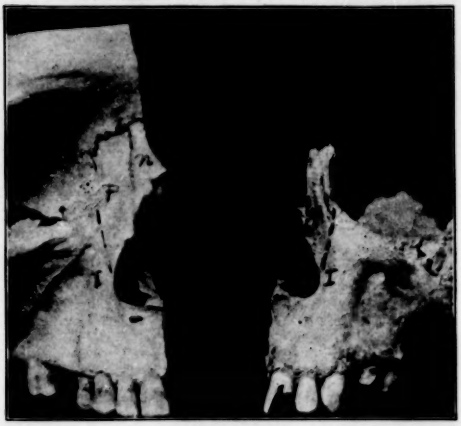

Fig. 5.—Relative position of incision for correction of nasal deformities by Marshall's operation. *N*, nasal bone; *P*, nasal process of the superior maxillary; *I*, line of incision and fracture.

2. It frees the nasal passage by straightening a buckled septum and by preserving the entire strength of the septal support.

3. It gives in every case free nasal breathing, and if septal spurs or angular thickenings are present it allows ample room for their removal.

1819 Spruce Street.

Diagnostic Cloaks for Carelessness.—"Neurosis," "neurasthenia," and "hysteria" are terms that are convenient excuses when patience and trouble are alike demanded in a reasonable search after the true cause of the woman's complaint. I know of no more dangerous terms in the gynecologic vocabulary than these. They are apt to lead the young and unwary practitioner into a diagnostic culdesac, missing in his stumble therein the track to some serious pathologic condition that this delusive impression has prevented his reaching.—H. Macnaughton Jones in *Clin. Jour.*

A LIGHT-CARRIER WITH LENS AND A RHEOSTAT FOR URETHROSCOPY *

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In a previous article[1] I described the light-carrier and lens in the following terms:

It aims to meet those cases in which treatment requires dryness and applications, such as would be available through the old straight-tube urethroscopes, as the Chetwood pattern, for example. Any one having the Chetwood and the Buerger instruments might essay to avoid purchasing this extra attachment. The difficulty, however, is that of recognizing with the older instruments the exact point discovered with the Buerger instrument. After about a half year's use of this attachment, however, I am convinced of its serviceability. With the great aid of the magnification and irrigation of the Buerger instrument a definite lesion is located. The telescope is then removed without disturbing the sheath of the instrument, and the urethra is mopped dry. The attachment is then inserted and by means of its eye-piece, which repeats the degree of enlargement of the Buerger telescope, the lesion is again recognized. The magnifying eye-piece is then removed and the treatment applied.

The parts of the attachment are extremely simple, as shown in the cut. They are only twofold, namely, a light-carrier with its electrical connections, practically in duplicate of the Chetwood light-carrier, which fits into the opening of the sheath of the urethroscope in such a way as to give the maximum space possible for the use of instruments. The second part is a magnifying eye-piece (Fig. 1).

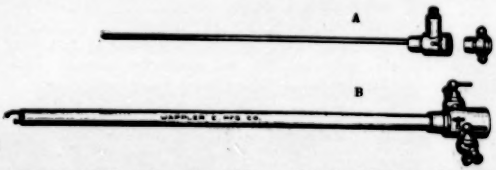

Fig. 1.—A light-carrier and magnifying eye-piece for urethroscopy (A). The short eye-piece has been supplanted by one on an arm permitting applications under the eye. B shows the protecting tube suggested by Dr. Buerger.

In order to protect the sheath of the urethroscope Dr. Buerger has suggested an extra sheath for use inside the main instrument in connection with my light-carrier, so that chemical applications will not attack the urethroscope sheath itself (Fig. 1, *B*). The following objections to this plan appeal to me: 1. Applications strong enough to attack metal are not advised in the urethra. 2. It is impossible to make the inner and outer sheaths fit so tightly that capillary attraction will not carry fluids between them; thus the protecting sheath does not protect, particularly as it does not cover the margins of the fenestrum of the urethroscope itself, where the damage of chemicals will necessarily be greatest. 3. The inside diameter of the sheath of the urethroscope is already so small as to make treatment somewhat difficult, so that further loss of space by the extra sheath is very serious. 4. The fulgurating wire is a far better means of treatment than chemicals strong enough to attack the metal; furthermore, if any one desires to employ the latter a silver sheath will correct the difficulty without loss of space.

Since the publication of this description, the addition of a magnifying lens with an extension arm permits the more ready introduction of applicators under the eye (Fig. 2, *G*). Thus the small removable eye-piece (Fig. 2, *F*) is virtually discarded, for the reason that in order to make an application it must be detached and laid aside—a procedure which, of course, changes the field considerably and rather adds to the difficulties in consequence. Figure 2, *E*, is the Buerger urethroscope and needs no description or commendation.

After considerable use of this light-carrier and attachment, I developed a difficulty with and objection to it, inherent in the fact that the cable to illuminate it had to be detached from the urethroscope and connected to the light-carrier. This act frequently moved the fenestrum from the point of treatment, which naturally is a serious matter, not only because of the loss of time and energy in locating it again, but also because of the irritation of the mucous membrane by the additional manipulation. A rheostat has been produced whose features are readily discernible in the photograph. It does not differ in any way from the standard rheostat, is mounted on a slate base with an extension cord (Fig. 2, *A*) for connection with the wall-socket and has four instead of two binding-posts for two cables instead of one (Fig. 2, *B* and *D*), placed at opposite sides of the base. Between them is a double-pole, double-throw switch of small size (Fig. 2, *C*).

For the sake of clearness, a twisted cable (Fig. 2, *B*) has been used for connection between the left-hand poles and the urethroscope, and a covered twin-cable

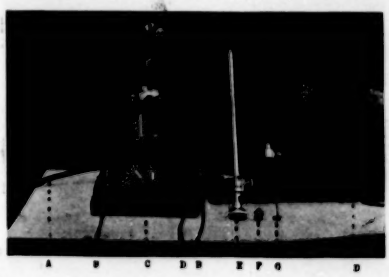

Fig. 2.—Rheostat and attachment. *A*, extension cable, leading from plug to base; *B*, twisted cable, leading from left binding-post to urethroscope; *C*, double-pole, double-throw switch, open, stands in front of socket and rheostat, the latter connected with the circuit within the base by special wires; *D*, right-hand binding-post with braided covered twin-cable leading to attachment; *E*, urethroscope; *F*, removable eye-piece, and *G*, attachment with extension eye-piece.

(Fig. 2, *D*) for connection of the right-hand posts with the attachment. Thus it is easy at once to trace the method of using the appliance.

The switch is thrown to the left to connect the urethroscope; the lesion is located, diagnosticated and prepared for treatment. The telescope is now removed and the light-carrier introduced. The switch is then swung over to the other side, making connection with this attachment; by means of the eye-piece, the lesion is again recognized and appropriately treated. These manipulations are easily and readily performed with the

* Presented before the Medical Progress Club, Nov. 18, 1912.

1. Pedersen, V. C.: An Attachment for Dr. Buerger's Urethroscope, Am. Jour. Urol., August, 1911.

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right hand, while the left hand maintains the urethroscope in its proper position.

The rheostat and light-carrier will be found of inestimable value in the management of suitable cases. It will naturally be understood that the electrical systems of both urethroscope and light-carrier will be tested before use.

45 West Ninth Street.

HISTORY OF A TYPHOID CARRIER

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AND
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In a previous publication Sawyer[1] described the case of H. O., who, it was demonstrated, had infected with typhoid fever twenty-eight persons, four of whom died. After closing this investigation and reaching the conclusion that H. O. had been the means of infecting these persons, the State Board of Health of California conferred with the United States Public Health Service in San Francisco, and the latter agreed to receive the patient at their hospital in San Francisco.

In accordance with this arrangement, H. O. was admitted to the United States Marine Hospital at San Francisco, March 19, 1912, for the purposes of study and observation, as well as to protect the public against further infection from this source.

The history of the patient was that he had had typhoid at the Marine Hospital in San Francisco in the latter part of 1907, being discharged from that institution as apparently cured, in January, 1908. The part of the history obtainable from Dr. Sawyer further showed that typical typhoid bacilli had been isolated from the stools of H. O. just previous to his entrance to the hospital; on the other hand, his urine had been negative as to typhoid bacilli.

From March 28 up to October 1, specimens from H. O. were received weekly or biweekly at the federal laboratory of the Public Health Service, and plated on Endo's medium. From twenty-four to forty-eight hours later all non-acid-producing colonies were transferred to Russell's medium; cultures showing typical reaction on Russell's medium were carried into bouillon, sugar medium, litmus milk and Dunham's peptone. They were also tested for agglutination with the blood of known cases of typhoid and with immune serum prepared by the Cutter Laboratories of Berkeley. As a result of these examinations, bacilli answering the morphologic, cultural and serum tests for typhoid were isolated on twelve different occasions by Passed Assistant Surgeon C. W. Chapin, then the assistant medical officer of the federal laboratory. The tests, with the exception of the twelve mentioned, all proved negative, showing typical *Bacillus coli*, except on one occasion when a somewhat atypical paracolon bacillus was isolated by one of us (Currie). The tests that showed the presence of typhoid bacilli in stools were all made during the period elapsing from March 28 to June 19; no typhoid bacilli were isolated between June 19 and October 14. The urine at all times was negative as to typhoid bacilli.

The next question that arose after the typhoid bacilli had been repeatedly isolated by the Public Health Service officers referred to was what means could be tried to rid this patient of typhoid bacilli in order that he might be released from custody without being a menace to persons coming in contact with him. With this in view the federal laboratory prepared an autogenous typhoid vaccine in the usual manner and administered this remedial agent as indicated in the accompanying tabulation.

DOSAGE AND REACTION IN ADMINISTRATION OF AUTOGENOUS TYPHOID VACCINE

Date of Administration, 1912	Dose, Bacilli	Reaction
April 27	25,000,000	Local redness; no general.
April 30	50,000,000	Local redness; no general.
May 5	125,000,000	Local redness; no general.
May 12	250,000,000	Local redness; no general.
May 19	500,000,000	Local redness and pain; general headache, nausea; slight rise in temperature; sweating.
May 28	250,000,000	Slight reaction.
June 5	400,000,000	Marked redness and swelling; headache and nausea.
June 11	400,000,000	Same as June 5 but less severe.
June 19	1,000,000,000	Severe local reaction; no general symptoms.
June 28	1,500,000,000	Moderate local but no general reaction.

In all, ten doses of the vaccine were administered during a period of two months. The injections were given subcutaneously; the general reactions invariably occurred within six hours after administration, and all general symptoms disappeared before the end of twenty-four hours. The patient was released from custody, October 14, with the understanding that he report himself for examination once a month for the next six months.

SUMMARY AND CONCLUSIONS

This patient suffered from typhoid in 1908 and from that date up to June, 1912, probably discharged virulent typhoid bacilli frequently. These bacilli apparently caused the illness of twenty-eight men, four of whom died.

After treatment with autogenous vaccine for a period of two months, during which ten doses were given, varying in size from twenty-five thousand to a billion bacilli, the patient no longer discharged typhoid bacilli for the three and a half months following the last dose that he was under observation.

This experience confirms further what has often been observed, that a patient after recovering from typhoid fever may carry virulent bacilli for a relatively long period of time.

Apparently autogenous vaccine may be of service in ridding such patients of their bacilli, but such a conclusion cannot be positively drawn, even in the case of H. O., until the patient has been observed further.

1. Sawyer, Wilbur A.: A Typhoid Carrier on Shipboard, THE JOURNAL A. M. A., May 4, 1912, p. 1336.

Neuralgia from Calcification of the Gasserian Ganglion.—F. Smoler reports a case (*Prager med. Wchnschr.*, 1912, xxxii, 388) which shows anew that trigeminal neuralgia has many causes. The patient was a woman of 63 who in 1895 had had the first symptoms of trigeminal neuralgia. Four peripheral operations were undertaken in the course of the years, some of which gave transient relief after the neurectomy, but the pains always returned in time with increased intensity, requiring constant sedatives to render life bearable. In 1911 vertigo and nausea were added to the clinical picture, and in the hope of even transient relief a fifth operation was undertaken, this time on the gasserian ganglion. The ganglion was found almost completely destroyed by a concretion in the center, 7 by 4 by 3 mm. in size. It was easily extracted; at one stroke the woman was freed from all pain, and there has been no recurrence of any disturbance since. Smoler cites from the literature a case of trigeminal neuralgia from compression by a sarcoma at the base of the skull, and two of a neoplasm in the ganglion itself.

AN APPARATUS FOR THE INJECTION AND LAVAGE OF THE PELVES OF THE KIDNEYS AND THE URETERS

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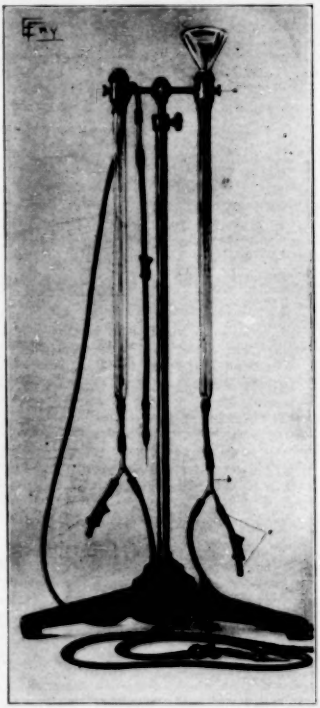
In using a syringe or any other apparatus which has a pressure device to force fluid into the kidneys there is always danger of renal overdistention and colic. In a few instances large hydronephrotic kidneys have been ruptured by this overdistention by the pressure method.



Apparatus for the injection and lavage of the pelves of the kidneys and the ureters: a, control screw for raising or lowering single buret; b, Y-tube; c, tube for draining unused colloidal silver solution.

The frequency of overdistention and renal colic resulting from injecting the pelvis of the kidney and the ureters with shadow-casting fluids by means of a syringe suggested to me the idea of using an apparatus with only sufficient force of gravity to cause the flow to reach the kidneys.

In using the pressure method it is difficult to control the amount of pressure used and the examiner cannot always stop the pressure in time to prevent overdistention. This error causes the patient great annoyance and may cause intense pain for a number of hours following the examination. Moreover, in using the syringe we are not always able to withdraw the colloidal silver solution from the kidneys and the ureters.

By means of the apparatus here described the pelvis of the kidney can be thoroughly drained of all the fluid which has been injected. This procedure is especially helpful in large hydronephroses and pyonephroses, when it is necessary to inject a large quantity of fluid into the kidney.

DESCRIPTION OF APPARATUS

An ordinary small telescoping irrigating-stand with a cross-arm at the top of the telescoping rod is used. The cross-arm is made to hold two 50 c.c. titrating burets. At the lower end of the buret is a short piece of rubber tubing of small caliber which is connected to a Y-shaped glass tube. To one arm of the Y from 4 to 5 feet of pressure tubing is attached and to this tubing is attached the needle which is inserted into the lumen of the catheter. To the other arm of the Y is attached 3 or 4 inches of rubber tubing which has a stop-cock at its end. This is used to drain the colloidal silver from the buret before beginning to siphon. In this way the fluid which has not been used can be saved. Water may be poured into the burets to replace the colloidal silver before beginning to siphon. The control screw is used to obtain different heights of the tubes.

We have used this apparatus in the Mayo Clinic in more than fifty injections and in only one case did colic occur. This was in a case of stone in the ureter, and the catheter became plugged after passing the stone. There was a large hydro-ureter with hydronephrosis above the stone, and, since the backed-up urine could not drain off, the colloidal silver suddenly cleared the catheter and caused the temporary pain of overdistention. This was quickly relieved by lowering the instrument below the level of the patient and siphoning off some of the retained secretion.

In most of the cases in which injection has been employed no measured amount has been used because there is so little pressure that the colloidal silver will outline the pelvis or the ureter and return around the catheter without causing overdistention.

The pyelograph is taken while the fluid is being injected and the pelvis or the ureter is kept as full as possible at the time the exposure is being made. The instrument works mechanically, and the examiner is not exposed to the *x*-ray while using this method.

The apparatus has been used in cases of double pyelitis when it has been necessary to lavage the pelvis. Both pelves can be washed at one time and the fluid is allowed to run slowly until the patient complains of irritability of the bladder. In this manner irrigation may be continued for a longer period without pain.

The force of gravity only is depended on to cause the flow into the kidneys, the tubes being raised only far enough above the level of the patient to overcome the resistance of tubes and catheters. After allowing a few cubic centimeters of the colloidal silver to run in, the pyelograph is taken while the solution is still running, and after this has been completed, the tubes should be lowered at once below the level of the patient, and the colloidal silver siphoned out.

The improvements in technic which we have noted in using this method of injecting the pelves of the kidneys and the ureters are: (1) distention of the pelves of the kidney or ureter or both can be produced without causing colic; (2) a pyelograph can be taken while the pelvis is under the pressure of constantly running fluid, and without exposing the examiner to the *x*-ray; (3) colloidal silver or other solutions can be siphoned off quickly after the plate has been made; and (4) it is useful in slow and prolonged lavage of both renal pelves.

The instrument shown in the drawing is a modified Boehm salvarsan apparatus. An instrument used to inject the kidney should be larger than the Boehm apparatus so that it can rest on the floor and be raised to a height of 6 feet.

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THE RESULTS OF TWO HUNDRED CHROMO-URETEROSCOPIES EMPLOYING INDIGO-CARMIN AS A FUNCTIONAL KIDNEY TEST*

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PHILADELPHIA

The province of a functional kidney test, in my mind, is not so much to determine the diagnosis in a particular case as it is to prognose the sufficiency of the supposedly healthy twin organ. Often the precise nature of the kidney lesion can be definitely diagnosed without recourse to the estimation of the renal function—witness the skiagram in nephrolithiasis, palpation in conjunction with the other physical and clinical findings in renal tumor, etc. Moreover, it is often absolutely unimportant, from the point of view of treatment, to determine by functional kidney tests the extent of involvement as to sufficiency or non-sufficiency of a kidney, the seat of such diseases as calculus, sarcoma, hypernephroma, surgical tuberculosis, etc. The paramount question to be decided is the unilateral or bilateral involvement of the organs and above all the functional integrity of the presumably healthful kidney. It is seldom that the functional test, alone or associated with ureteral catheretization, either for the collection of urine for microscopic and bacteriologic examination, or for collargol injection and skiagraphy, will fail to establish the true nature of conditions.

There is perhaps no function in the human economy more treacherous under ether anesthesia than the renal function. The prevalence of impairment of this function is always a concern to the surgeon undertaking major surgical intervention; the solicitude becomes acute when either kidney is the object of attack; the anxiety grows, frequently to the magnitude of a specter solemnly forbidding the conscientious surgeon to proceed, when nephrectomy is contemplated.

Consequently there have arisen untold functional kidney tests in the endless search for the ideal practical one, which has not yet been found.

No one can dispute the greater reliability of a quantitative metabolic study, in the estimation of the renal function, but impracticability rules it out of the question as a routine procedure.

I have discussed elsewhere the relative value of the various other functional tests.[1] Dependence on two or more tests is obviously more productive of conclusive information than deductions drawn from a single one.

In my opinion the two functional kidney tests deserving greatest consideration to-day are those employing indigocarmin and phenolsulphonephthalein. Each possesses advantages over the other, but the superiority of the former as a practical test has been duly weighed and judged.[2] In brief, indigocarmin is entitled to the preference for the following reasons:

1. Trustworthy deductions relative to kidney sufficiency or insufficiency are possible simply by observing the elimination of the dye from the ureteral orifices, obviating the necessity of ureteral catheterization, an act occasionally impossible of accomplishment, for mechanical reasons, under certain forms of prostatic enlargement, and inadvisable, at least theoretically, for a normal ureter in the presence of vesical tuberculosis.

2. The elimination of ureteral catheterization dismisses any possibility of stimulated or suppressed renal function, reflexly incident to the introduction of a catheter into the ureter, an act predisposed to influence the physiology of the kidney.

3. The lumina of ureters vary with the age, sex and size of patients; hence the employment of ureteral catheters commonly selected frequently fails to occlude the ureters completely. Consequently any test dependent on the collection of the total urine for a given time may be productive of erroneous quantitative results. I have occasionally observed the elimination of a dye from the orifice into the bladder, around the ureteral catheter, several minutes prior to its appearance at the free external end of the catheter.

4. In unilateral determination the necessity is avoided of allowing the catheters to lie in the ureters for two or more hours, thereby inviting infection. In some cases, even after successful introduction of the catheters, the urine will fail to flow from one or either catheter, owing to occlusion of the eyes by blood coagula, pus or mucosa, thereby vitiating the examination.

5. The test is simple, enabling the surgeon to draw immediate conclusions — even as preliminary to operative intervention, should the patient require general anesthesia to conduct the cystoscopy — and obviating the necessity for the employment of reagents, colorimetric readings and calculations, a procedure which consumes considerable time.

The indigocarmin test for functional kidney sufficiency may be performed either qualitatively or quantitatively. The latter method with the aid of the Duboscq colorimeter is of interest scientifically, but does not commend itself practically and is open to the same objections that hold for phenolsulphonephthalein. Qualitatively two methods are utilized: ureteroscopy and ureteral catheterization.

Kapsammer and others have urged ureteral catheterization in conjunction with the test, observing the elimination of the dye from the external end of the catheter. The objections to this technic have already been enumerated.

AUTHOR'S TECHNIC OF CHROMO-URETEROSCOPY

In my opinion the maintenance of the simplicity of the indigocarmin test has not only added to its value as a reliable method for the determination of renal permeability, but has enthroned it among functional tests as the most practical, useful and best test for the estimation of kidney sufficiency or insufficiency at the command of the surgeon to-day.

The patient is placed in position as for simple cystoscopy. Indeed, the test itself consists merely in cystoscopic observation of the onset, character and intensity of the coloration of the dye injected intramuscularly, as it is ejected directly from the ureteral orifices into the bladder. Attention to the following details will greatly facilitate the procedure:

1. Preparation of the patient for general anesthesia, although it will be unnecessary in more than 2.5 per cent. of cases.

* Read in the Symposium on Tests of Kidney Function in the Section on Genito-Urinary Diseases of the American Medical Association, at the Sixty-Third Annual Session, held at Atlantic City, June, 1912.

* Because of lack of space this article is abbreviated in THE JOURNAL by the omission of the tables giving the details of the case. The complete article appears in the Transactions of the Section and in the author's reprints.

1. Thomas, B. A.: The Relative Value of the Various Methods for the Determination of Functional Kidney Sufficiency, Pennsylvania Med. Jour., February, 1911.

2. Thomas, B. A.: The Quantitative Determination of Functional Renal Sufficiency by the Duboscq Colorimeter; Indigocarmin Versus Phenolsulphonephthalein, Am. Jour. Med. Sc., September, 1911.

2. Position of the patient with knees flexed and abducted, feet supported, and thighs resting in same plane with the trunk.

3. Antisepsis of external genitalia, especially the anterior urethra.

4. Anesthetization of the posterior urethra and vesical neck with 4 per cent. beta-eucaine lactate, using one-half to one ounce of the sterile solution in a deep urethral syringe.

5. The selection and introduction, after lamp testing of an evacuation-irrigation cystoscope of the Brown-Buerger or Schlagintweit type, thereby permitting of rapid evacuation and refilling of the bladder — a consideration of importance in marked pyuria or hematuria.

6. Deep and slow intragluteal muscular injection of 20 c.c. of a 0.4 per cent. solution of indigocarmin warmed to blood heat.[3]

7. Thorough vesical lavage to insure a perfectly clear return of the irrigation fluid, followed as a routine by injections in the male of 150 c.c and in the female of 200 c.c. sterile boric acid solution.

8. Careful study of the intravesical anatomy and pathology while waiting for the onset of the elimination of the indigo.

9. Maintenance of a brilliant illumination in a perfectly clear fluid medium, while alternately viewing the ureteral orifices for the first — often faint — appearance of the dye.

Immediately after the injection of the indigocarmin, the attention of the cystoscopist must be directed to careful and intelligent observation of the interior of the bladder, particularly the ureteral orifices. Alternate observations, in a brilliantly illuminated bladder, of the orifices in a case with normal kidneys, will soon demonstrate the elimination of the dye as a dark or light blue coloration as the urine is ejected. As soon as the excretion occurs, the precise time of onset and intensity of color reaction in minutes after intramuscular injection is noted. If the elimination is first observed as a light blue or possibly greenish coloration, instead of the customary dark blue, it should be noted whether or not and when the color reaction becomes intensified throughout a total period of thirty minutes.

Prior to the appearance of the indigo, the observer studies carefully any intravesical pathologic condition, the contractile and expansile activity of the ureteral orifices, the manner of elimination of urine as governed by ureteral peristalsis, and particularly the character of the ejected urine, whether perfectly clear or containing macroscopic blood or pus. Not infrequently a ureterovesical calculus, pyonephrosis, bleeding renal tumor or varix and tuberculosis of the kidney can be positively diagnosticated by simple ureterocystoscopy, or, if you please, ureteroscopy.

Conclusions drawn solely from the time of onset of elimination of the dye may prove erroneous. The analysis of cases demonstrates that due consideration must be given to the intensity of the color reaction.

The duration and quantity of the excreted dye is of interest, but of little practical importance.

VALUE OF THE TEST

In one of Philadelphia's leading hospitals, for a period of six years, the mortality following nephrotomies and nephrectomies averaged 16.6 per cent. Since 1906 in kidney cases with operation in which the indigocarmin test was applied, there have been but five deaths, none of which was due to the insufficiency of the supposedly normal twin organ. One death resulted from peritonitis on the fifth day, another from acute miliary tuberculosis four or five weeks after nephrotomy for renal tuberculosis, and two others from shock, four and eighteen hours, respectively, after operation; the fifth patient was operated on in a condition of uremia under scopolamin and morphin, when an absolutely unfavorable prognosis had been given.

A review of the cases submitted for analysis in this paper has so deeply impressed me with the value of the indigocarmin test, if properly executed, that I have not the slightest hesitancy in predicting that, in a given series of cases, the chromo-ureteroscopist will be enabled to make far more correct surgical diagnoses and prognoses than he who is accustomed or obliged to depend in all cases on bilateral synchronous ureteral catheterization.

In spite of the uniform excellent results of this test in my experience, I do not maintain that the indigocarmin test is infallible — what functional kidney test is? Obviously there are certain conditions in which the test should and must be supplemented by ureteral catheterization, microscopic and bacteriologic examinations, collargol injections, the *x*-ray, etc.

ANALYSIS OF CASES

Two hundred cases subjected to the indigocarmin test during the past six years, for the diagnosis and differential diagnosis of kidney and other genito-urinary affections, have been tabulated. In Table 1 have been placed the cases in which the kidneys are presumably normal or at least where the extent of renal damage has been negligible. Table 2 comprises those cases exclusively in which there is known disease of either one or both kidneys. This classification has been based on the physical, chemical and bacteriologic examinations of the urine, the cystoscopic and operative findings, the time and intensity of the elimination of indigocarmin and the subsequent history of the patient and course of disease.

The analytic study thus founded has necessitated the placing of ninety-one cases in the group "Cases with Normal Kidneys." From these patients and those with unilateral disease in Table 2, indigocarmin, for practical purposes, has sufficed to demonstrate functionally sufficient kidneys 289 times. I wish to call attention to the distinction between functionally sufficient and pathologic kidneys. A functionally sufficient kidney may or may not be pathologic and a pathologic kidney may be functionally insufficient or it may be sufficient. For example, consider nephritis, pyelitis, hydronephrosis, calculus, etc. All are pathologic conditions of the kidney, but the organ may at the same time be functionally sufficient. Insufficiency is directly dependent on the extent of parenchymal involvement. In Table 2 a number of kidneys are functionally sufficient from the operative prognostic point of view, but pathologic clinically, and therefore not to be regarded as normal kidneys. In short, *"sufficient"* and *"normal"* are *not* synonymous.

Although the exact time limit for functionally sufficient kidneys has probably not yet been definitely determined, my experience has indicated that, in the event of the excretion of the dye as a dark blue, it should be placed, for the present at least, at twenty minutes; while if the elimination occurs as a light blue,

3. In my early cases 4 c.c. of a 4 per cent. solution of indigocarmin were employed. During the past four years the 20 c.c. quantity has been used as a routine. The advantage of the larger quantity is that the dye is completely in solution; in greater concentration it exists in suspension.

fifteen minutes should be the time limit. This applies strictly to prognosis in view of nephrectomy. In other surgical intervention, even in nephrotomy, the figures will vary and no time limit can at present be stated. In nephrectomy likewise surgical technic and skill, proper selection and administration of anesthetics, post-operative treatment and renal reflexes play a most important rôle with respect to recovery. These are variables which no functional kidney test will ever gauge. The onset of the excretion of the dye as a light blue after fifteen minutes and continuing as such undoubtedly indicates functional degeneration of the respective kidney. Precisely at what minute the ultimate time limit for functional sufficiency of such a kidney expires, is at present undetermined.

The earliest appearance of elimination as a dark blue occurred in three minutes, the case being one of cystitis. In 90.1 per cent. of kidneys, the indigocarmin was excreted as either a light or dark blue in from three to fifteen minutes. In 61.1 per cent. of kidneys it appeared in ten minutes. The onset of elimination, for the first twenty minutes, is summarized in Table 3.

TABLE 3.—TIME OF ONSET OF ELIMINATION

Minutes	Number of Cases	Minutes	Number of Cases
3	1	11½	2
4½	2	12	20
5	12	12½	2
6	21	13	13
6½	6	14	7
7	31	15	22
7½	1	16	7
7½	4	17	4
8	26	17½	1
8½	3	18	9
9	38	19	9
9½	4	20	8
10	37		
11	14		302

As a general rule the dye makes its appearance in individuals with normal kidneys at the same time on both sides (68.1 per cent. of cases). When there has been a variance it has ranged from one to seven minutes.

In Table 2 are tabulated 109 cases of diseased kidneys; there were sixty-three major surgical operations of which sixty were either nephrectomy, nephrotomy, nephrolithotomy or ureterolithotomy, with five deaths. Of the deaths, surgery should not be charged with one, as the patient was in a state of uremia and operative intervention was clearly contra-indicated. Of the remaining four, one was due to peritonitis, one to acute miliary tuberculosis and two to shock. The report includes thirty-two nephrectomies with two deaths, neither of which are accountable to renal insufficiency, one patient dying of peritonitis, the other of shock from hemorrhage. The results in these cases are assuredly a fitting tribute to indigocarmin.

A review of both tables will show that the dye was eliminated forty-six times as a light blue. In the twenty-three times of excretion before or on the fifteenth minute, it occurred eight times in chronic parenchymatous nephritis, three times in mild prostatic hypertrophy, once in chronic appendicitis, twice in chronic cystitis, once in chronic interstitial nephritis, four times in tuberculous nephritis, once in renal calculus, twice in pyelitis and once in pyonephrosis. In the twenty-three times of its elimination before or by thirty minutes, it occurred once in essential hematuria, twice in chronic parenchymatous nephritis, twice in pyelonephritis, twice in nephrolithiasis, five times in retention with or without calculus or pyelitis, twice in prostatic hypertrophy, six times in tuberculosis, twice in renal calculus and once in ureteral stenosis. As a rule, in those cases in which the dye was eliminated as a light blue after fifteen minutes there seemed to be unmistakable evidence of grave functional degeneration of the respective kidney, necessitating the placing of a time limit for sufficiency in view of nephrectomy under these conditions at fifteen minutes.

Table 2 shows the various affections impartially analyzed with respect to the applied indigocarmin test. Those conditions in which it appears to be of greatest value are hydronephrosis, moderate-sized to large calculi of either the kidney or ureter, pyelonephritis, pyonephrosis, tuberculosis of moderate to extensive degree, involving approximately one-third of the parenchyma, ureteral stenosis and retention of urine because of urethral obstruction, particularly prostatic enlargement. In several of these conditions, the test has thus far in my hands proved itself not only reliable, but absolutely infallible. Those conditions in which it is of little or no value are movable kidney of slight mobility in which there is no kinking of the ureter or secondary disease of the parenchyma, essential hematuria, nephritis, pyelitis and tumors not involving the major portion of the organ. In the last two, however, the diagnosis may be established by the presence of pyuria and especially in the last, by the appearance of free blood from the ureter, in the absence of tuberculosis, calculus, bleeding papillary varix or essential hematuria.

The tabulations of cases are for the most part self-explanatory. The value of indigocarmin in two conditions, retention of urine and nephritis, is noteworthy, but as I have discussed these conditions elsewhere,[3, 4] no further consideration of them will be attempted here.

The effect of certain drugs on the renal function is still a mooted question, and occasionally provokes discussion. Cases 21 and 26 of Table 2 substantiate my belief that ether and morphin, even in small amounts, influence the excretory activity of the kidneys. The first case chromo-ureteroscoped under ether displayed no elimination of indigocarmin for twenty-five minutes; two or three days later without ether, the dye was observed in fifteen minutes. The second case, a patient to whom morphin sulphate, one-sixth grain, had been given hypodermically about fifteen minutes prior to chromo-ureteroscopy, demonstrated no elimination of the dye for a period of thirty minutes; four days later on reexamination without morphin the indigo was observed from the left ureteral orifice in eighteen minutes. Consequently we must conclude that the indigocarmin test conducted with the patient under the influence of either of these drugs may be fallacious and lead to erroneous deductions. Fortunately the use of morphin is seldom, if ever, required, and I have not been obliged to resort to general anesthesia to perform chromo-ureteroscopy in more than 2.5 per cent. of cases.

In concluding this analytic study of 200 cases with respect to indigocarmin, I can do no better than quote my own words,[5] with certain numerical changes necessitated by increased work.

CONCLUSIONS

1. Chromo-ureteroscopy based on the employment of indigocarmin is the most valuable single test for renal sufficiency or insufficiency that we possess, because it is the most practical, affording the same diagnostic advantages as the functional tests dependent on bilateral synchronous ureteral catheterization, the technic and

4. Thomas, B. A.: Ueber die Chromoureteroskopie in der funktionellen Nierendiagnostik, Ztschr. f. Urol., 1911, v, 259.
5. Thomas, B. A.: The Value of Chromo-Ureteroscopy in Functional Kidney Diagnosis, Surg., Gynec. and Obst., April, 1911.

determination of which are tedious, complicated and consume much more time.

2. The test is particularly applicable to surgical affections of the kidneys and ureters, and almost invariably suffices to establish the prognosis and diagnosis, if, when the condition arises, it be supplemented by ureteral catheterization, urinalysis, collargol injection or skiagram.

3. Comparative observations of the onset and intensity of the color elimination have never failed to determine the functional sufficiency of the supposedly normal twin organ, in view of operative intervention.

4. It is of no value in movable kidney, in the absence of ureteral kink or hydronephrosis, pyelitis, essential hematuria, early tuberculosis and certain other forms of nephritis and small tumors not involving the major portion of the parenchyma, although ureteroscopy itself is not without value in these conditions.

5. It is of value in the differential diagnosis of hemorrhagic and chronic interstitial nephritis from other types of the disease.

6. Supplemented by ureteral catheterization and the *x*-ray, it will serve to diagnose practically every case of renal and ureteral calculus.

7. In hydronephrosis, pyonephrosis, pyelonephritis, ureteral occlusion and chronic tuberculosis of the kidneys involving approximately one-third of the parenchyma, chromo-ureteroscopy is of exceptional merit.

8. In simple hypertrophy and carcinoma of the prostate causing chronic retention of urine and *vis a tergo* urinary pressure on the renal parenchyma, the indigocarmin test promises to be of value in the differentiation of operable and non-operable cases.

9. Chromo-ureteroscopy is also of great value in the differential diagnosis of obscure abdominal conditions; also in facilitating difficult ureteral catheterization.

10. The duration and quantity of indigo excretion are of interest scientifically and also of some diagnostic importance, but as a routine are not practicable of determination and are unnecessary of notation.

11. Indigocarmin is eliminated from functionally sufficient kidneys as a dark blue in from three to twenty minutes, and as a light blue not later than fifteen minutes. In 90.1 per cent. of kidneys it appears either as a dark or light blue in fifteen minutes; in 61.1 per cent. it is observed in ten minutes.

12. If the indigo does not appear at the expiration of fifteen minutes (light blue) or twenty minutes (dark blue), it is evidence of serious insufficiency of the renal function.

13. If the elimination of the dye does not occur at all, the respective kidney or ureter is gravely diseased.

14. The intensity of the color reaction depends to some extent on the concentration of the urine, but largely on the individual excretory power of the organ.

15. A surgically diseased kidney eliminates the dye less intensely than its normal twin organ, or not at all.

16. The test is very simple and by alternate observations of the two ureteral orifices, differences between the two kidneys are readily, accurately and speedily noted.

I wish to express my deep appreciation to the numerous physicians and surgeons who have afforded me the opportunity, in part, to conduct this study.

116 South Nineteenth Street.

Cancer and Irritation.—Cancer is found in all vertebrate animals and always in a situation in which the habits of the animal cause an irritation of the parts affected.—Mayo in *Boston Med. and Surg. Jour.*

PRACTICAL VALUE OF BLOOD-CRYOSCOPY FOR THE DETERMINATION OF RENAL FUNCTION*

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AND
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The first attempt to measure osmotic pressure of animal fluids through molecular concentration or by means of determining their freezing-points dates back about twenty years, when Dreser[1] in 1892 published the results of his investigations on diuresis as dependent on pharmacologic agents. His method, though, was too complicated for practical purposes.

The merit of having established freezing-point determination as a definite clinical method of practical value belongs to A. von Koranyi[2] who, five years later, published his fundamental physiologic and clinical investigations on the determination of osmotic pressure of animal fluids by means of lowering their freezing-points. He was the first to show that the freezing-point of normal blood lies at about 0.56 C. below zero, and that blood taken from individuals with healthy kidneys shows a freezing-point varying between 0.55 and 0.58, while, through retention of end-products of metabolism and the thus resulting deterioration of renal function, a rise[3] of molecular concentration of blood to a freezing-point above 0.58 ensues.

Koranyi's work found its most enthusiastic endorsement at the clinic of Kümmell who, in conjunction with his associates and pupils, felt justified in drawing conclusions of eminently practical value from the results of more than 500 freezing-point determinations on their abundant material of surgical renal lesions. According to Kümmell,[4] a blood-point of 0.55 to 0.57, in the presence of a unilateral renal lesion, points to anatomic health and normal function of the other kidney; a rise above 0.58, while not necessarily contra-indicating operative interference, should be interpreted as a danger signal of more or less impaired renal function, and a rise to 0.60 and above points to definite renal insufficiency, strictly contra-indicating nephrectomy.

CRITICISM OF BLOOD-CRYOSCOPY

The diagnostic importance and reliability of blood-cryoscopy was severely and not unjustly criticized by some of the most competent and experienced renal surgeons (Israel, Rovsing, Tuffier, Barth, Kapsammer and others). The conclusion that a normal blood-point was necessarily coincident with anatomic health and functional sufficiency of the kidneys was proved to be incorrect. Normal renal function may exist in the presence of a low blood-point (0.52 and lower). A high blood-point of 0.60 and above, in the presence of a unilateral renal lesion, may be caused by a systemic toxemia, temporarily interfering with the functional capacity of the other kidney, which soon after removal of the diseased organ becomes functionally normal. Therefore, as emphasized by Rovsing,[5] it is just as

* Read in the Symposium on Tests of Kidney Function in the Section on Genito-Urinary Diseases of the American Medical Association, at the Sixty-Third Annual Session, held at Atlantic City, June, 1912.

1. Dreser: Arch. f. exper. Path. u. Pharmacol., xxix, 1892.
2. Von Koranyi, A.: Ztschr. f. klin. Med., 1897, xxxiii, xxxiv.
3. All freezing-points of blood are below that of water and hence below zero; the greater the molecular concentration, the lower the freezing-point; i. e., the higher the figures; for simplicity the lowering of freezing-points below normal are spoken of as rise and vice versa.
4. Beitr. z. klin. Chir., 1903, xxxvii.
5. Rovsing: Arch. f. klin. Chir., 1905, lxxv.

erroneous to draw conclusions from a normal freezing-point in unilateral renal lesions on the functional deterioration of the diseased kidney, as to presume from a point of 0.60 and above that the function of both kidneys is impaired. The death-blow to general acceptance of blood-cryoscopy was dealt by Kapsammer.[6] After a most exhaustive study of the literature and on the basis of extensive personal experience he arrived at the conclusion that cryoscopy of blood and urine, though of interest theoretically, does not amount for practical purposes to more than the determination of specific gravity, which is obviously far less complicated and inaccurate.

The almost unanimous adverse criticism prevented cryoscopy of blood from receiving general approval in this country. The attitude of our clinicians was possibly best expressed in an editorial of THE JOURNAL,[7] which considered Koranyi's observations "interesting and suggestive," but insisted that "their clinical value must yet be determined," since the utility of the test depends not a little on its practicability. The American literature of the last decade contains but scant reference to the application of the test, the execution of which was found technically difficult, entailing considerable loss of time and giving, as Emerson[8] puts it, "little more than would be expected from the clinical observation of the case, and often not that much."

It is also not surprising that the keen interest directed toward cryoscopy of blood by many brilliant investigators of continental Europe gradually subsided; with the general application of bilateral ureteral catheterization, renal function was sought to be determined by examining the separated renal secretions, and blood-cryoscopy became limited to that small class of kidney-lesions in which, for obvious reasons, separated renal urines could not be obtained. Casper[9] particularly warns against overestimating the diagnostic value of the test, which is valuable only in the hands of an observer who arrives at the correct interpretation of its findings on the knowledge of the physical fundamentals of cryoscopy. At present blood-cryoscopy seems to be systematically applied only at Kümmell's clinic. As evidenced by various recent publications, Kümmell is still the most persistent advocate of the test, and from the normal or abnormal freezing-point of blood formulates strict conclusions on the anatomic condition and functional capacity of one or both kidneys. Kümmell and his collaborators[10] explain that the glaring discrepancies in cryoscopic findings by various authors occur through errors in technic; the test, as practiced at his clinic, gives uniformly reliable results and most important data in regard to operative indications.

We decided to substantiate or refute Kümmell's contentions by personal investigations which, if followed by results of practical value, might give an impetus to further work at the hands of American clinicians, who have at their disposal a larger material of surgical renal lesions. Since so much stress is laid by Kümmell on a faultless technic for the obtaining of uniformly exact cryoscopic results, it appears appropriate to describe somewhat in detail a few essential points of our own method of procedure.

AUTHORS' TECHNIC

We use the ordinary Beckmann apparatus with adjustable zero thermometer graduated to 0.01 degree C. The water used for rinsing the tubes as well as for determining the zero of the thermometer is doubly distilled — that is, we redistill the commercial distilled product in glass retorts. The fluids to be determined should not become contaminated by foreign salts. Thermometer, stirrer and the inside of the tubes are not touched by the hands. The tubes are cleaned with a brush and ordinary distilled water, finally rinsed with the doubly distilled water, and then dried and sterilized by dry heat.

The blood is collected by inserting a fairly large needle into the most accessible vein at the bend of the elbow and allowing it to flow into one of the tubes. As it flows, it is stirred until the fibrin separates. We use a glass stirrer in beating out the fibrin and a platinum one in the apparatus. Our usual method has been to collect the blood on one day, allow it to stand in the ice-box over night and determine it the next morning. Repeated comparative tests have shown that there is practically no alteration in the freezing-point if determined within twenty-four hours. The temperature of the freezing-mixture is kept constant, between —3.5 and —4.5 C. The distilled water must not be cooled too rapidly, for this would prevent its becoming sufficiently precooled before freezing. Often the blood fails to crystallize, though cooled several degrees below its freezing-point. This can be avoided by dropping in a small piece of ice, when the thermometer reads about 1 degree below the freezing-point, thus precipitating the freezing without altering its value. Extreme precooling should be avoided, as it is apt to give values which are too low.

After preliminaries have been attended to, the whole procedure (determination of points for water and blood) can be finished in less than an hour.

In our early work with blood-cryoscopy we wished to establish a standard for normal blood-points. We therefore selected individuals with apparently healthy kidneys, who were confined to the hospital for merely functional ailments (sexual neurasthenia, etc.). We gradually learned how to avoid technical errors and soon obtained surprisingly uniform results in this class of cases. Thirty-one normal cases were tested and determinations were repeated in a number of these for purposes of control. The points of all determinations varied between 0.540 and 0.578, and gave an average of 0.559; twenty-six cases, or 84 per cent., showed points between 0.550 and 0.570, or an average of 0.560.

In our work with pathologic cases twenty determinations were made on fourteen patients with unilateral renal lesions (hydronephrosis, pyonephrosis, nephrolithiasis, tuberculosis, perirenal abscess, etc.). In all these cases ureteral catheterization was done with application of the usual functional tests to the separated renal secretions, demonstrating good function of the other kidney. The blood-points in these cases varied between 0.546 and 0.580, showing an average of 0.558. In cases with operation there were good recoveries.

Twenty-nine tests were made in twelve cases of prostatic hypertrophy. Determination of renal function prior to a contemplated operation (prostatectomy) seems to be particularly important in this class of cases on account of the frequent impossibility of obtaining separated renal secretions for functional purposes. The usefulness of blood-cryoscopy in prostatic hypertrophy complicated by ascending infection is best illustrated by a brief description of the most essential clinical features of some of our observations.

6. Kapsammer: Nierendiagnostik und Nierenchirurgie, 1907.
7. The Diagnosis of Renal Insufficiency from the Freezing-Point of the Blood, THE JOURNAL A. M. A., March 4, 1899, p. 495.
8. Emerson: Clinical Diagnosis, Ed. 3, 1911.
9. Casper: Handbuch der Cystoscopie, 1911.
10. Neudorfer: Mitt. a. d. Grenzgeb. d. Med. u. Chir., 1906, xvi.

REPORT OF CASES

A man of 79 entered the hospital with complete retention, pronounced symptoms of general urosepsis and a blood-point of 0.626. After drainage had been established by means of a retaining catheter, under appropriate general treatment, the freezing-point gradually dropped to 0.601 and 0.598 until it reached 0.577. Prostatectomy was followed by a temporarily good result.

Another prostatic of 68 with a blood-point of 0.589 made a very slow but, in the end, satisfactory recovery from his prostatectomy.

The blood-point of a man of 74 with complete retention and urosepsis dropped, after drainage by a retaining catheter and appropriate treatment, from 0.595 to 0.576. Prostatectomy was followed by recurrence of uroseptic symptoms, suppression of urine, coma, etc., and a blood-point of 0.616. With the improvement of untoward symptoms this dropped to 0.579 and was 0.566 at the time the patient was discharged.

Another prostatic of 69, with several calculi behind the enlarged gland, showed on admission a blood-point of 0.588, which dropped to 0.579 before operation. Immediately following prostatectomy the patient became septic, developing symptoms of a general psychosis; his blood-point at the same time was 0.633, rising to 0.65 and remaining above 0.60 until his death. Autopsy showed ascending pyelonephritis.

A man of 64 with carcinoma of the prostate showed, on admission, a blood-point of 0.595. Owing to marked uroseptic symptoms and because his blood-point remained persistently around 0.60, relief for the patient's complete retention, which was very distressing on account of difficulty of catheterization, was attempted by cystostomy under local anesthesia. Following this the symptoms of urosepsis abated and the blood-point dropped gradually to 0.581. At the patient's persistent request prostatectomy was performed under spinal anesthesia four weeks after the first operation. Death occurred two weeks later under symptoms of sepsis and renal insufficiency; autopsy revealed ascending pyelonephritis.

A patient of 70, with prostatic hypertrophy and severe pyuria, rather suddenly developed uremic coma with complete suppression of urine. The blood-point was 0.755. Autopsy showed advanced deterioration of both kidneys through pyonephrotic foci.

The average blood-point of prostatics who died with or without operation was 0.600, while that of patients who recovered was 0.584. From our experience it therefore appears that blood-cryoscopy in this class of cases offers a definite aid as to indicating the time and nature of operative procedures, and especially in respect to prognosis.

Two patients with bilateral renal tumors (most probably cystic kidneys) gave interesting cryoscopic data. In one of them tests made at weekly intervals gave 0.607, 0.664, 0.628 and 0.625, respectively, an average of 0.631. The other patient showed a point of 0.607 on admission, which with the exacerbation of symptoms of urosepsis and urinary insufficiency rose to 0.627. With the improvement of the general untoward symptoms the blood-point dropped to normal, 0.558, 0.564 and 0.546 respectively, but at the end of the observation rose again to 0.600. Both patients left the hospital without submitting to operation, and nothing could be ascertained as to their subsequent condition.

A patient of 46 with bilateral pyonephrotic stone-kidneys, on one of which a nephrolithotomy had been previously done, resulting in complete loss of function of the organ operated on, showed a blood-point of 0.601; on these findings operative interference was deemed inadvisable.

In eleven determinations on three patients with chronic nephritis, blood-points were about normal, varying between 0.540 and 0.582, and averaging 0.561. Two fatal cases of uremic coma showed points of 0.597 and 0.596 respectively. In one case of nephritis of pregnancy (albuminuria, edema), with a blood-point of 0.551, there was prompt recovery after delivery.

Ten determinations were made on patients with marked cachexia or anemia complicated by systemic toxemia; in nine of them the blood-point varied between 0.494 and 0.546, giving an average of 0.516. One case of this class (grave diabetes complicated by pulmonary tuberculosis) showed at first a point of 0.554 which gradually, with the increase of cachexia and anemia, fell to 0.526 shortly before death.

Finally ten determinations were made on patients with grave organic lesions (diabetic acidosis, cirrhosis of liver, arteriosclerosis, apoplexy, tertiary lues) showing points varying between 0.558 and 0.595, an average of 0.579.

Altogether 132 determinations were made on sixty-nine individuals.

COMPARISON WITH OTHER FUNCTIONAL TESTS

In a number of cases comparative tests were made of blood-cryoscopy with the twenty-four-hour urea output. Quantitative estimations of urea, carried out for a series of days under hospital regimen, give an approximate idea of total renal function and are of practical value. Our comparative observations on continuous daily quantitative urea determinations and cryoscopy of blood show a marked coincidence between both methods which should be applied simultaneously if time permits, when other means (ureteral catheterization) are not feasible.

Cryoscopy unquestionably possesses the advantage over all methods of quantitative chemical analysis of metabolistic end-products (urea, chlorids, etc.), since it demonstrates not only reduced elimination of one substance but of the total sum of all fixed molecules as excreted by the kidneys. It likewise has an advantage over the various color tests (methylene-blue, indigo-carmin, phenolsulphonephthalein), by which total renal function is to be estimated from the time, intensity and quantity of excreted dyes. The results of control-tests of colorimetric determinations are not uniform and are particularly inaccurate in the presence of blood. Besides, they are theoretically objectionable as they depend on the absorption and elimination of extraneous substances not physiologically present in the circulation, while by cryoscopy the ability of the kidneys to eliminate substances normally present in the blood is measured. Nevertheless this criticism should not be interpreted as an attempt to minimize the value of the various color and other chemical and physical tests, from the study of which an insight into the all-important question of renal function is obtained. In our opinion blood-cryoscopy represents merely an aid to our clinical armamentarium; it deepens and intensifies the diagnosis and should be a routine procedure in doubtful cases.

CONCLUSIONS

The hope is expressed that our work will be an impetus to further investigations on a larger scale, at least as regards surgical renal lesions, in order to settle the question whether cryoscopy deserves a definite place in renal surgery. On the basis of our work with the method we feel justified in formulating the following conclusions:

1. Cryoscopy of blood, done correctly, gives a point of about 0.56 C. below zero in the presence of healthy kidneys.

2. This point is not materially altered through unilateral kidney-lesions, provided that the other organ is anatomically and functionally intact.

3. A lowering of the blood-point to 0.52 and lower is generally found in anemic or cachectic individuals with otherwise healthy kidneys.

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4. A rise to 0.60 and above should be interpreted as a danger signal of derangement of renal function and should indicate caution against radical operative procedures.

5. In the hands of a critical observer, cryoscopy of blood is a valuable test for the estimation of absolute or total renal function, especially when estimation of relative function, through ureteral catheterization, is not feasible.

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A STUDY OF THE ACCURACY OF THE PHENOLSULPHONEPHTHALEIN TEST FOR RENAL FUNCTION *

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It is not sufficient to-day to be able to diagnosticate the presence of disease in any organ; we wish to know also to what extent the disease has interfered with the function of that organ.

The kidneys lend themselves particularly well to estimation of function on account of the ease with which their excretion can be obtained. It is for this reason that methods of estimating the functional ability of these organs have developed so rapidly and effectively. It is scarcely necessary to refer to the inadequacy of the most careful clinical examination of the patient, combined with the most thorough clinical and microscopic examination of the urine always to reveal the presence of kidney disease, even when it is far advanced. Again, when pathologic elements are present in the urine, the exact significance of these is not always evident. Abundant albumin and casts can be present when the renal lesions are slight, and absent when the lesions are grave. When certain clinical signs are present the nature and gravity of the lesions may be very evident, but these are not always present, or, if present, may be very difficult to interpret. Most of the criticism of functional tests has come from those who have not used them and are unfamiliar with the nature of the information supplied.

A small group of kidney surgeons with vast experience and ripe judgment, such as Israel, Rovsing and a few others, do not feel the necessity of any functional estimations and consider their adoption unnecessary, but other equally experienced surgeons, such as Casper, Kümmell, Kelly and the late Albarran, make use of one or more of the various tests in vogue.

The quotation of mortality figures of nephrectomy by the various surgeons who employ functional tests and those who do not, is not a fruitful source of information. So many factors must be taken into consideration in analyzing statistics of this kind, not the least of which is the individual skill of the operator, that comparative statistics are difficult to interpret as far as the value of any certain procedure is concerned. It may be stated, however, that mortality statistics of those using functional tests do not suffer by comparison.

The whole subject resolves itself into the question as to whether a knowledge of the renal function is of any value before operative procedures on these organs. If of value, then functional estimations should be made. The estimation of renal function, however, for the sole purpose of determining whether the remaining kidney can be depended on for its efficiency, forms a relatively small field of usefulness.

A wider field of usefulness is the determination of the total function, first in nephritis, in order to obtain an accurate knowledge of the extent of the renal lesion; secondly, the estimation of the total function in cases of urinary obstruction as an index to the degree of renal disturbance, and thirdly, its use for purposes of diagnosis in revealing unsuspected lesions or confirming the diagnosis of suspected, but not definitely proved lesions.

The kidney efficiency is tested in one of two ways, either by estimating the amount of retention, if any, of substances in the blood usually eliminated by kidneys or by measuring the excretion power. A measure of the kidney retention is of value only in bilateral disease and usually gives information only when the lesions are severe. Cryoscopy of the blood, estimation of blood urea, or, more valuable still, total nitrogen estimations of an albumin-free filtrate, are the methods most in use, and at times furnish information of great value, especially for prognosis. Two years ago Rowntree and myself[1] reported a method of estimating the excretion power of the kidneys by means of phthalein. The technic of the test as originally reported we have found reason to modify in only a few minor details.

TECHNIC

The technic of estimating total function without the use of ureter catheters is as follows: One c.c. of phthalein solution (6 mg.) is injected deep into the muscles, preferably the lumbar muscles, and the patient instructed to void at the end of one hour and ten minutes, and again at the end of two hours and ten minutes from the time of injection, each specimen being kept separate. The drug should appear normally in about ten minutes, and this much time is consequently allowed for its appearance. In this method no account is taken of the time of appearance, the main reliance being placed on the quantity excreted. This method is extremely simple.

In cases with urinary obstruction a catheter must be employed. The time of appearance is estimated in these cases, the collection being made for two separate hours from the time of appearance of the drug in the urine. When the phthalein excretion is high for the first hour it is unnecessary to continue the test longer. The estimation of the amount of drug excreted is made by means of a modified Hellige colorimeter. The estimations can be made quite accurately for practical purposes by means of two graduated test-tubes. When the test is used in conjunction with ureteral catheterization the injection is made intravenously, and the urine collected for two separate fifteen-minute intervals, the time of collection beginning with the appearance of the drug on the first side. When the kidneys are functioning smoothly, and the function is being measured simply to determine the efficiency of the remaining kidney, should nephrectomy be performed, a collection for fifteen minutes is usually all that is necessary. If the second kidney is normal, a high excretion of phthalein will occur, sufficient to indicate its efficiency. When, however, both kidneys are diseased or when the functional estimations are being made for purposes of diagnosis, comparison of the two kidneys being desired, periods longer than fifteen minutes must be employed. For short periods the kidneys normally vary much in the relative amount of work which each one performs, but if the the time of col-

* Read in the Symposium on Tests of Kidney Function in the Section on Genito-Urinary Diseases of the American Medical Association, at the Sixty-Third Annual Session, held at Atlantic City, June, 1912.

1 Jour. Pharm. and Exper. Therap., July, 1910.

lection is one hour the variation will be slight. When very accurate relative estimations are desired intramuscular injection and collection for one hour should be made. The total function without use of the ureter catheters is always determined in these cases for purposes of comparison with the separate function and to check up the amount of catheter inhibition should this occur.

RESULTS

The test has been employed now in over 200 cases of nephritis of varying types, approximately 350 cases of urinary obstruction, mostly prostatic cases, in 150 cases of unilateral or bilateral disease in conjunction with ureteral catheterization, besides being used in over a thousand other cases as part of a routine examination. Our added experience confirms entirely our early conclusions regarding the reliability and accuracy of the test.

In the milder forms of so-called glomerular or parenchymatous nephritis the definite clinical evidence of renal disease seemed at first rather irreconcilable with the relatively high phthalein output. Phthalein is eliminated almost if not entirely by the tubules, so the presence of glomerular disease would not necessarily cause decreased phthalein elimination. The glomeruli, however, are rarely severely diseased without considerable resultant damage to the tubules, and the greater the tubular injury the more marked the phthalein decrease. In these cases with disease of long standing, the elimination is markedly decreased. In the chronic interstitial type of nephritis individuals with low phthalein excretion are occasionally seen in whom no evidence of uremia is present, and there is somewhat of a tendency for this reason to doubt the accuracy of the test. There have been some such cases in our series, and in three of these death resulted some months later from uremia. Autopsy in each case proved the presence of a very advanced chronic nephritis. In the routine examination of patients, one was found whose excretion of phthalein was 7 per cent. for two hours, although no suspicion of any renal disease was entertained in this case. The most careful examination failed to give any evidence of the existence of a nephritis. The patient was kept under observation, and a few months later suddenly developed uremia which ended in death. Autopsy showed an extreme grade of chronic interstitial nephritis.

In thirty-five cases the opportunity has presented itself of verifying the accuracy of the test at autopsy. The lesions as revealed correspond closely with the efficiency, as shown by the test. In one case with a practically normal output, a moderate grade of double polycystic kidney was found. The urine itself showed no abnormalities, and the condition was unsuspected.

In thirty cases a nephrectomy has been performed and an opportunity afforded of comparing the pathologic picture with the function, as shown before operation. The phthalein excretion and the amount of kidney destruction seemed to correspond in a striking manner. It would be well to remind those using the phthalein test that it is only a test of the excreting power of the kidney, and not a test of the normal or abnormal function of other organs. It furnishes, when taken in conjunction with the ordinary clinical examination, accurate information which can be obtained at the present time in no other way. With added experience we find no reason to change our previous views as regards the accuracy of the test in measuring the excretion power of the kidneys.

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ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. THOMAS, KROTOSZYNER AND HARTMAN, AND GERAGHTY

DR. CHARLES E. BARNETT, Fort Wayne, Ind.: I wish to ask Dr. Geraghty to give us in closing the time of appearance of the phthalein. I think also that some of us do not know about his color solution; at least, in the West we are a little dark on that subject. He has changed the quantity of color solution in his colorimeter. I want to ask him also to dilate a little more on this polycystic kidney question which he spoke about. I have a case which I expect to report—the patient is still in the hospital—in which three weeks ago I took out a polycystic kidney on the right side. I did the phthalein test in that case, and got a 55 per cent. quantitative test. The excretion was more rapid in the second hour than in the first hour. The time on the left side (the good kidney) was fourteen minutes. On the left side the urine came in spurts in the normal way, while on the right side there was a continuous flow, such as one gets when tapping a hydronephrosis. The right kidney showed polyuria, while the left kidney showed a proper kidney function. I did not expect to find a polycystic kidney, but finding this kidney polycystic, and knowing that the left side seemed to be normal, I took the kidney out. A couple of days ago there was an average secretion of 33 ounces of urine, with an average specific gravity of 1.020. So it looks as if the other kidney was all right.

It seems to me that the phthalein test gives us as good a color test as the indigocarmin test; with the phthalein test we are able to check up the quantitative functional capacity of the kidney better than with any other test that I know of to-day.

DR. FRANCIS R. HAGNER, Washington, D. C.: I have had quite a little experience with it, and in my hands it has been most admirable. Dr. Geraghty did not mention the fact that it does not make any difference in this test about the amount of fluid excreted by the kidney. In an hour, the kidney may excrete half an ounce, and yet that half an ounce of urine may contain the normal percentage of phthalein. On the other hand, the kidney may excrete 5 or 6 ounces, and yet the percentage of phthalein may be very low.

When I first began to use this test, I demonstrated before the class a patient whose urine examination showed no casts, low specific gravity and no albumin. He was turned over from the medical service to see if there was anything the matter with the kidneys. The phthalein test was made, and in an hour the patient excreted not over 5 per cent. of the drug. There was so little that it was difficult to see, and I began to think I might be mistaken in the amount excreted. This patient lived just two weeks. He had never had any casts in his urine. He had one attack of suppression but left the hospital a few days later and was brought to another hospital with which I was connected, in a comatose condition and died that afternoon. Necropsy showed a marked chronic interstitial nephritis, and yet the patient two weeks before did not appear as ill as the test would indicate.

DR. WILLIAM H. SCHMIDT, Atlantic City, N. J.: In the use of indigocarmin a case occurred recently in a patient who had an infection of the kidney and in whom there was no excretion of the dye until the end of thirty minutes, which would seem to substantiate Dr. Thomas' statement regarding the use of morphin. At operation, about three months ago, the kidney was found to be so badly damaged that it was removed. Since that time the patient has gone on to complete recovery. In a recent case my attention was called to the kidney condition by an accident. The functional kidney test was done, employing indigocarmin, and there was no excretion of the dye whatever. The patient was operated on and the kidney removed. It proved to be a polycystic kidney. The patient, after removal of the kidney, passed quite a large quantity of urine, as much as 60 or 70 ounces a day, but survived the operation only two weeks. At necropsy the other kidney was found to be polycystic.

DR. H. D. FURNISS, New York: I make the two tests, get the total capacity with phthalein, and afterward use the indigocarmin test to give the relative functional capacity of

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each kidney. In that way I have avoided leaving the catheters in. I have found the 0.4 per cent. indigocarmin solution very painful. I now inject 30 minims of 0.4 per cent. solution of beta-eucaine before injecting the indigocarmin, using the same needle but a different syringe. In this way the indigocarmin causes very little pain.

I recently had a case of polycystic kidney in which there was no elimination of indigocarmin and only 6 per cent. of phthalein in two hours; the patient promptly died. In a number of cases in which I have used the phthalein test it has cleared up the diagnosis. In one patient, who was sent to me on account of intermittent pain in the left renal region that had existed over a period of five years, both ureters were catheterized and phthalein was injected. There was no elimination of the drug on the left side; on the right side 35 per cent. was excreted in two hours. I made a radiograph and two large stones were seen in the pelvis of the right kidney. Because of the failure of elimination on the left side I again catheterized the left ureter to the pelvis of the kidney; a 10-ounce hydronephrosis was found. In another patient who complained of intermittent attacks of pain on the left side of a similar type there was a failure of elimination. I found a 2-ounce hydronephrosis on the left side with a stricture of the upper end of the ureter. I think that in either one of these cases I would have stopped in my examination and would not have investigated further except for the phthalein. One case that I have is very instructive. The patient is a woman with only one kidney and a stricture of the lower end of the ureter. When the stricture contracts, the amount of urine drops from 25 ounces down to 10 ounces, and the excretion of phthalein for an hour-and-a-half period is only 12 per cent. After dilatation of the stricture the amount of urine rises to 25 ounces, and the output of the drug to 35 per cent. Not only is this test useful in determining the functional capacity of the kidney, but it also helps to make diagnoses which we would otherwise overlook.

DR. LOUIS E. SCHMIDT, Chicago: For the last fifteen years I have had considerable experience with functional tests, and I am now almost exclusively limiting myself to the cryoscopy of the blood and the phthalein test. My experience has convinced me that these are the two tests on which we can place some reliance. It is true, as Dr. Geraghty has said, that possibly our operative results are no better even if we do use functional tests, but it may in some instances permit us to give a more correct prognosis. I would rather reserve the indigocarmin test for cases in which I am unable to do catheterization. It is true that there are some objections to catheterization, as Dr. Thomas has pointed out, but I think that, as a whole, those objections are limited. I can corroborate what Dr. Krotoszyner has said in regard to cryoscopy of the blood. My own experience with cryoscopy of the blood has led me to place as much reliance on this test, as far as the prognosis is concerned, as on any one of the other tests, although, as Dr. Geraghty has stated, we should not depend on one, but on as many as is possible. I am familiar with the statistics of Kümmel and others abroad, and I know myself from personal conversations with these operators that they do not entirely depend on their figures, yet I am under the impression that it is desirable for us to come to some conclusions so that we can at least give more accurate prognoses.

DR. EDWIN BEER, New York: Although I am not an admirer of any single test, I believe they are of some use in estimating kidney function. I think, however, to draw extreme conclusions from the excretion of these substances is liable to lead to error, because we, first of all, know very little of all the underlying factors that make for negativity. If there is no excretion of indigocarmin or no excretion of phthalein one is liable to think that both kidneys are badly diseased. There are exceptions to that rule. We have to solve the negative cases, and I believe that this Section ought to make an attempt to get at all the negative results and to see by analysis why those cases were negative, and how long the patients lived after the tests were negative. In my own experience and the experience of others there have been a number of patients who survived a nephrectomy with a freezing-point of the blood much below 0.59 or 0.60, contrary to the law that Kümmel laid down.

We should study the combined and the individual function of the kidneys. I believe that in studying the combined function, with these tests we are a little nearer an accurate estimation of kidney function, but when it comes to studying the kidneys separately we are confronted with a different problem, though the same factor to a less degree may be present in the former type of cases, for instance, prostatism, chronic nephritis, etc. In this connection, I want to refer to the fact that the kidneys are considered as if they were independent structures, whereas as long as six years ago I published a report of a series of seven cases with obstruction, etc., on one side from one cause or another, in which, on making the phlorizin test, the glycosuria was absent on the other side. Professor Rovsing has reported a series of cases showing the effect of stone and tuberculosis on the secretion of the opposite kidney. Despite the negative test reaction these cases may stand nephrectomy well and after the diseased kidney has been removed, the remaining kidney works better and the tests become positive. In other words, negativity may and often does mean, in surgical kidney conditions, a transient inhibition. The essential thing is to analyze the negative cases, to report the end-results, how long the patient lived and whether there was uremia or not.

DR. HUGH H. YOUNG, Baltimore: This phenolsulphonephthalein test has been of considerable help to me, particularly in prostatic cases. In the early work with this test we were doubtful of its value, owing to the fact that in some patients who were in perfectly good health with no sign of uremia, the urine showing no sign of grave kidney lesion, the test showed that the kidneys were greatly diseased. At first we took that as an evidence that the test was all wrong, but time has shown that the test is practically always right. I believe that, with the exception of certain peculiar forms of glomerular disease, the test is usually almost perfectly right in its conclusions, and we have been led, as hundreds of cases have piled up, to have more confidence in the use of it. I would not think of operating without it in a great many patients. One patient presented urine that was almost normal in appearance. There were practically no signs of renal lesion, yet the drug did not appear in the urine in about fifty minutes, and the patient died of uremia within three weeks; necropsy showed two shrunken kidneys which were practically useless. Evidently an operation would have resulted in death.

This test is also of value in watching patients while preparing them for operation. From week to week one sees improvement with retained catheter or suprapubic drainage. Patients with an extremely bad appearance, with the percentage of excretion from 5 to 12 per cent. during the first hour, will at the end of a month or two become three times as good, both in appearance and in the percentage of the drug excreted. It gives an index as to when one can operate safely.

It is true that certain patients in whose cases the phthalein test is bad can be operated on safely. If a patient has a low phthalein test, which improves a little under prolonged catheterization, and if during that treatment the patient shows no sign of uremia, no sign of change in the kidney under the conditions under which he is living, he can generally be operated on without danger of suppression or uremia after the operation. In other words, those patients have reached a condition of renal stability, or excretion stability, under conditions in which they can be operated on safely. The test must be considered relative, not absolute. As compared with carmin ureteroscopy it seems to me that it is infinitely more simple. Take, for instance, a prostatic case. The cystoscope must be kept in place forty or fifty minutes to watch the appearance of the drug. If there is hemorrhage, one could not tell when it began. If the urine became cloudy one could not see the ureters. It seems to me that carmin ureteroscopy is out of the question for the great majority of prostatic cases for which the phthalein test is so simple. If the patient is able to void urine it is not absolutely necessary to pass the catheter.

DR. A. J. CROWELL, Charlotte, N. C.: An objection that Dr. Thomas mentioned in regard to the phenolsulphonephthalein test was that the urine would pass around the ureteral catheter and thus all the urine might not be accumulated. The same objection can be raised to the indigocarmin test, in that

the greater the secretion of the kidney the less marked will be the color in the urine. The smaller the amount of urine secreted, of course, the greater the coloration in the urine as it comes away. So that one would be just as inaccurate, I think, as the other. About two years ago Dr. Geraghty, just after he discovered this test, gave me some of the material for trial, and I have been using it regularly since that time. The only case of hypertrophy of the prostate which I have lost since that time following operation was one in which there was about 12 per cent. excretion, as accurately as it could be estimated in two hours' time. Outside of the poor output, the patient was apparently in excellent health. His physician, Dr. Brennizer, was very anxious for the patient to be operated on, and thought he would stand the operation well. I advised against it, and put him off for a week or two, but he insisted; finally I operated and the patient died in about three days.

DR. B. A. THOMAS, Philadelphia: In supporting and advocating the indigocarmin test I do not wish to be understood as attempting to minimize the value of the other tests, such as phenolsulphonephthalein, cryoscopy of the blood, etc. I still believe, however, from my own experience, that the indigocarmin test is superior for the practical purposes of the surgeon. This is my belief simply because of the ease with which it can be carried out, not necessitating the catheterization of the ureters, on which the unilateral determination of kidney function by phthalein or any other test depends. As I said in my paper, the indigocarmin test may be carried out either qualitatively or quantitatively. The statistics submitted in these tables are of qualitative determinations. I have done some comparative work with these two agents, the drug phthalein on the one hand, and the dye carmin on the other, and it has been my observation that if you wish to do quantitative work the results are just as satisfactory with the indigocarmin as they are with the phthalein.

It has been my observation that if at the end of twenty minutes there is no elimination, that kidney is functionally insufficient. Therefore, there is no necessity for continuing the operation longer. If the bladder is well washed out before the examination is undertaken there are few cases in which the urine will become so cloudy as to interfere. If it is necessary, it is easily possible with the modern cystoscopes, employing the irrigation principle, to wash out the bladder and fill it up within one minute.

DR. M. KROTOSZYNER, San Francisco: It appears from the discussion that very few have practical experience with blood cryoscopy, which if correctly done is a valuable functional method, and on account of its uniformly good results will amply repay for the time and labor spent on its performance. The test is, of course, not so easily carried out as the various other functional methods on account of its rather difficult technic. It took Dr. Hartman, who has carried out the technical part of our work, several months to perfect the technic to such a point as to obtain uniformly good results in normal cases. I therefore agree with Kümmel who advises that the results of blood cryoscopy, as published in the literature from various experimenters be taken with a grain of salt. One observer, Theodore Cohn of Königsberg, gets for normal cases an average blood-point varying between 0.51 and 0.62 and I dare say that his technic must have been faulty as that of others who obtained points at variance from what we have found to be normal. I consider the phthalein test a very valuable addition to our armamentarium of renal functional tests; nevertheless, it should not have preference before the other recognized methods and should not be used alone for the determination of renal function. I think that if the various tests will be applied in these cases in which they are indicated and if the findings will be interpreted with due criticism and judgment, renal surgery will in the end be materially benefited. Renal surgery has been very much advanced by the newer urologic methods, especially by the application of renal functional tests. According to Casper the mortality of kidney operations has gone down from about 30 per cent. in precystoscopic times to about 4 per cent.

DR. JOHN T. GERAGHTY, Baltimore: In answer to Dr. Barnett, the time of appearance generally runs parallel with the amount excreted; that is, if there is a marked delay in the appearance of the drug, there will be a very marked diminution in the amount eliminated. In estimating the bilateral function, we neglect the time of appearance simply to avoid catheterization. As far as reading the amount of the drug is concerned, you can make your own standard. We use 6 mg. to the liter.

Phlorizin is extremely sensitive and the results notoriously unreliable. The ureter catheter may produce sufficient inhibition of function to prevent the appearance of glycosuria in a kidney with a moderately good function. Inhibition of the kidneys does occur from the presence of the catheter. In the majority of cases this comes immediately after the introduction of the catheters. It will soon be overcome. If it is not overcome, it is usually equal and bilateral, so that it can be checked up by taking the total function.

We have had only two cases of polycystic disease, one of which was not very far advanced; there were little cysts in the kidney, and there was no diminution in the output. The other case was an advanced case, and the output was only 2 or 3 per cent.

We should all bear in mind, I think, the limitations of functional tests, and not expect them to make a diagnosis for us, neglecting entirely our clinical examination. I think cryoscopy estimations of total nitrogen or of urea in the blood measure an entirely different thing from the excreting power of the kidney; they estimate the retention.

QUARANTINE IN THE MARITIME CITIES OF THE UNITED STATES

BY THE

PUBLIC HEALTH, HOSPITAL AND BUDGET COMMITTEE *

OF THE

NEW YORK ACADEMY OF MEDICINE

INTRODUCTION

With the recurring appearance of cholera on the Continent of Europe and of the bubonic plague in Central America and Cuba, the matter of the quarantine again demands discussion and careful consideration. THE JOURNAL of the American Medical Association of July 27, 1912, devotes to it an editorial[1] which affirms that the plague on the eastern coast of the United States is already a national health problem, while Dr. Howard D. King[2] of New Orleans, in a long article in the same issue of THE JOURNAL, asserts that "the United States to-day is confronted with a problem of momentous import, and one whose very gravity should awaken the entire country . . . to the danger of plague invasion."

The sounding of these warnings will probably cause the several health boards concerned to undertake precautionary measures. It is also arousing an agitation among the general public. The time is therefore particularly appropriate for a discussion of the whole problem of the administration of the maritime quarantine as it is at present in the United States, with special reference to the port of New York, which is the largest and most important gateway for foreign commerce and immigration in this continent.

* This report was written by E. H. Lewinski-Corwin, Ph.D. (17 West Forty-Third Street), the executive secretary of the committee, and approved by the committee. The members of the committee are: Drs. Charles L. Dana, chairman; James Alexander Miller, secretary; Algernon T. Bristow, Robert J. Carlisle, Haven Emerson, Arpad G. Gerster, S. S. Goldwater, Thomas W. Hastings, L. Emmett Holt, John H. Huddleston, Abraham Jacobi, Theodore C. Janeway, Egbert Le Fevre, Samuel Lloyd, Frank S. Meara, W. Gilman Thompson, Philip Van Ingen and Linsly R. Williams.

1. The Steady Advance of the Plague, editorial, THE JOURNAL A. M. A., July 27, 1912, p. 278.

2. King, Howard D.: Plague, the Menace of the United States of America, THE JOURNAL A. M. A., July 27, 1912, p. 237.

I. HISTORY OF QUARANTINE IN EUROPE

Early European commerce with the Orient was centered in the Mediterranean, the principal ports being at first Oriental colonies. During the crusades in the thirteenth century a number of islands and towns came under the sovereignty of Venice, and here maritime commerce became very active. Consequently it was Venice that first undertook measures of protection against the epidemics coming from the East. From 900 to 1500 A. D. the plague appeared in Europe sixty-five times, causing dreadful ravages. To prevent its introduction, Venice appointed in 1348 three commissioners of health. Their number was increased to six in the next century. They were vested with very large powers. A bureau of health, and later a lazaretto were established, which served as models for those established later on.

Genoa and Marseilles followed Venice in establishing quarantine, which was not altogether a new idea, as quarantine was known in the Orient as far back as the seventh century. It meant forty days' detention of vessels and their personnel arriving from infected places. Neither the South European quarantines, although administered in a most stringent and ruthless way, nor the sanitary police of the cities of the interior (as the *prévôts de santé* of Paris) succeeded in keeping the plague out.

In the seventeenth century the plague had become an almost endemic disease in Europe. Each city had established a quarantine and other means of defense, but the only result was to block trade and commercial intercourse between cities.

The first general sanitary regulations for the whole of France were issued by Colbert, minister of Louis XIV, Aug. 25, 1683. They invested the Board of Health of Marseilles with almost absolute power, but the punishments for infringements of the regulations had not the severity of those of the fourteenth century. The general unrest and fear were allayed.

At the beginning of the nineteenth century the measures of protection in the principal ports of the Mediterranean were in the hands of the local boards of health, whose power was absolute. Each had a different set of rules and regulations. The period of time for which vessels were quarantined depended wholly on the whim of the boards, and great inconvenience to commerce followed.

In 1815 England abolished the quarantine, her chief concern at the time being to improve the sanitary conditions of her ports. The Italian states and France began to take similar steps. In 1847 France created six medical posts in the Orient — in Constantinople, Smyrna, Beyrouth, Alexandria, Cairo and Damascus — whose duty it was to keep the government informed of the health conditions of their respective localities. The studies of the French medical officers at these places showed that the plague was not endemic in either Turkey or Egypt, and a modification of the French quarantine laws promptly followed. Moreover, the same studies of these French officers brought about the first international sanitary conference, held in Paris in 1851. Austria, Great Britain, the Roman States, Sardinia, Sicily, Spain, Greece, Portugal, Russia, Tuscany and Turkey sent delegates. A code of more scientific measures to be enforced uniformly at the ports of the nations represented at the congress was prepared by this congress, but only three powers—France, Portugal and Sardinia—signified their willingness to sign this international agreement. In spite of the fact that the congress failed to bring about an international agreement, it paved the way for future congresses of this kind, at which the administrative and scientific principles and policies of modern quarantine were laid down, and in 1903 at the congress in Paris twenty powers signed the international agreement for uniform quarantine rules and administration.[3]

II. GROWTH OF THE FEDERAL CONTROL OF QUARANTINE IN THE UNITED STATES

1. Need of Uniformity of Quarantine Regulations.— In colonial times the different legislatures had control over the quarantines, a power which was inherited by the states and municipalities, and is still exercised by them in the ports of New York and Boston, although all other ports have by this time come under national control.

As far back as 1851 the lack of a uniform system of quarantine laws was keenly felt. After the first sanitary conference, held in Paris in 1851, it became evident that the non-uniformity of the laws regulating quarantine in the different states not only caused great inconvenience to freight and passenger traffic, but was a positive menace to public safety. Some ports, for the purpose of attracting commerce, would be lax in following the strict regulations which they had imposed on themselves, while others would make mild regulations with the same object of getting trade, thus frequently admitting epidemic diseases.

2. Efforts to Secure Uniformity of Laws.—A. Quarantine Conventions:

The first step in this country to bring about a uniform system of laws was made by the Philadelphia Board of Health in 1856, when a conference of delegates from all the ports in the United States was called to discuss the matter. Resolutions were passed in an effort to establish the desired uniformity, but no direct legislative action followed.

The second national quarantine convention took place in 1858, and the third in 1859. The latter resolved that the adoption by all commercial nations of a sound and well-digested code of marine hygiene would tend greatly to alleviate the evils of the quarantine system.[4]

B. New York Chamber of Commerce: In 1892, owing to the grave cholera situation, the New York Chamber of Commerce investigated the New York quarantine and its relation to the federal government. These investigators found that they were not able to cope single-handed with the situation, and consequently declared themselves emphatically in favor of federal control. The following is a summary of their arguments:

1. As the federal government is an indispensable factor in every quarantine crisis, it is only by giving to the federal government complete control that conflicts of authority and the weakening effects of official jealousy can be avoided.

2. The federal government has at command the trained men who have to be summoned to the help of the state in time of peril. It is better to have the federal government directly instead of indirectly responsible.

3. The federal government in every crisis, through the various arms of the public service, is able to command an amount of expert cooperation entirely beyond the reach of a state.

4. The cooperation of consuls with the quarantine officials would be better insured if the latter were federal instead of state officers.

5. An international supervision of infectious diseases is a probable and a very desirable outcome of recent experiences.

3. Loutfi, Z. I.: La Politique sanitaire internationale, Paris, Arthur Rousseau, 1906, passim, pp. 51-87.

4. Proceedings of the First, Second and Third Quarantine Conventions, passim.

Such an outcome of itself would necessitate a national quarantine.

In accordance with these arguments, the Chamber of Commerce resolved to urge Congress to place the quarantine at New York and at all other places under national control. But Congress was not yet ready to adopt these measures.[5]

The following year the Chamber of Commerce resolved to cooperate with the National Quarantine Committee of the Academy of Medicine in its effort to secure efficient legislation from Congress, with reference to the establishment of a permanent health organization, under the national government.

C. New York Academy of Medicine: The special quarantine committee of the Academy of Medicine, to which this resolution of the Chamber of Commerce refers, was appointed Sept. 12, 1892, to investigate quarantine affairs at the port of New York, and the desirability of establishing a national quarantine. They found that the quarantine establishment at this port was insufficient for dealing with the emergency then confronting it. It was pointed out there that the interests which center in this port are not solely, nor largely, local but national, and the committee believed that the quarantine here could be most surely made humane, prompt and efficacious by the establishment of a national system, some of the more manifest advantages being: the uniformity of system and practice which would be insured by a national quarantine; the large and varied resources, both in trained men and in material, which would be available; the power of rapid concentration of forces at a point of threatened invasion by infectious disease; the avoidance of wide-spread apprehension and panic which a national administration would favor; the full and direct command of consular assistance and the promise of international cooperation; the concentration of responsibility in a single administrative body; the equable distribution of the expenses of a protective agency in whose benefits all parts of the nation share; and the removal of disastrous conflicts and pecuniary ambitions often openly pursued regardless of the public weal.

The National Quarantine Committee of the New York Academy of Medicine subsequently prepared a bill to establish a bureau of public health within the Treasury Department of the United States. The bill provided (1) that a commission of fifteen be appointed, which should consist of the Surgeon-General of the Army, the Surgeon-General of the Navy, the Supervising Surgeon-General of the Marine-Hospital Service, an officer from the Department of Justice, one medical commissioner from each of the sanitary districts of the United States and two commissioners at large; (2) that the duties of the bureau should be to collect and diffuse information on all matters affecting public health, including the sanitary condition of foreign ports and places from which contagious and infectious diseases might be imported into the United States; to be the medium through which the government should adopt measures in regard to public health; to cooperate with and aid state and municipal health authorities in the execution and enforcement of the rules; and to perform many other sanitary and administrative duties.

The bill did not pass, but many of its provisions were incorporated in the act of 1893, as outlined below.

D. Convention of Southern Congressmen: In November, 1905, the congressmen representing fourteen Southern states met in a convention in Chattanooga, Tenn., to discuss the prevailing quarantine administrations in the South. The sentiment of the convention was that experience of many years had conclusively demonstrated that, in view of the well-known cause of yellow fever epidemics, the many antiquated methods of quarantine hitherto resorted to were futile and onerous, and that in the interest of public health and public business, uniform regulations must be adopted. They accordingly resolved to request Congress to enact a law whereby the coast maritime and national frontier quarantine should be placed exclusively under the control and jurisdiction of the United States government, acting in cooperation with the several state boards of health, and that the government also negotiate with the governments of Central and South America and the West Indies urging them to adopt similar methods in stamping out the mosquito. They also resolved to urge the governors of the several states to call the attention of the legislatures of their respective states to the wisdom and policy of the abovementioned resolution and the desirability of uniform quarantine regulations.

The resolutions of the convention led to the appropriation by Congress of $600,000 in the quarantine act of 1906, approved June 19, 1906.

3. Quarantine Legislation. — In the meantime, although there were no acts passed which gave the federal government direct power over the quarantine at all the ports of the country, the trend of legislation was toward this goal.

The first national quarantine act was passed Feb. 23, 1799, requiring federal officers to aid the local agencies in the execution of state or municipal quarantine regulations. On April 29, 1878, March 3, 1879, March 27, 1890, and March 3, 1891, similar acts were passed. On March 3, 1883, $100,000 was appropriated for maintaining quarantine points along the coast, and in 1906, $600,000 was voted by Congress for the organization of quarantine in the South. From time to time acts were passed increasing the powers and broadening the sphere of work of the federal public health service.

4. The Act of 1893.—The Interstate Quarantine Act of March 27, 1890, and the law passed March 3, 1891, charged the Surgeon-General of the United States Marine-Hospital Service with the preparation of the rules and regulations necessary for preventing the introduction of certain contagious diseases from one state into another, and also the supervision over the medical inspection of alien immigrants.

These acts, however, provided that the national measures were for the purpose of aiding the state and local quarantine authorities, and did not give to the federal government the power of supervision and control over them. This was for the first time done in 1893, by the Harris Act, February 15 (introduced by Senator Harris of Tennessee), which granted additional quarantine powers and imposed additional duties on the Marine-Hospital Service. The act provides that:

1. Any foreign vessel clearing for any port in the United States must obtain from the United States at the port of departure a bill of health, in the form presented by the Secretary of the Treasury, setting forth the sanitary history and condition of the vessel.

2. In order to make inspections of vessels at foreign ports and to furnish to the United States government information regarding health and sanitary conditions of foreign ports, the President is authorized to detail medical officers of the government to serve in the offices of the consul at foreign ports.

5. Thirty-Fifth Annual Report of the Chamber of Commerce, pp. 79, 80

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3. The Secretary of the Treasury, through the Marine-Hospital Service, is empowered to promulgate uniform quarantine regulations for the ports of the United States, which rules must be enforced by the state and municipal authorities, if they choose to undertake the enforcement of them. In case of their refusal or failure to carry out these regulations the President is empowered to detail federal officers for this purpose.

4. The Surgeon-General is empowered to examine the quarantine regulations of all state and municipal boards of health, and cooperate with them in the execution and enforcement of the rules and regulations made by the Secretary of the Treasury.

5. The American consular officers at foreign ports (designated by the Secretary of the Treasury) are required to make weekly reports of the sanitary conditions of the ports and places at which they are stationed.

6. On the arrival of an infected vessel at a port in the United States not provided with proper facilities for treatment of the same, the Secretary of the Treasury may remand said vessel, at its own expense, to the nearest national or other quarantine station, where accommodations are provided for the necessary disinfection and treatment of the vessel, passengers and cargo.

7. Whenever there exists serious danger of the introduction of a contagious disease into the United States from a foreign country, the President is given power to prohibit, in whole or in part, the introduction of persons and property from such countries or places as he shall designate and for such period of time as he may deem necessary.

8. When a state shall surrender to the United States the use of buildings and disinfecting apparatus at a state quarantine station, the Secretary of the Treasury is authorized to pay a reasonable compensation for them.

5. Subsequent Legislation.—On Aug. 18, 1894, March 2, 1901, July 1, 1902, and Aug. 14, 1912, acts were passed giving to the service additional minor powers with regard to vessels plying between foreign ports on or near the frontiers of the United States, and United States ports adjacent thereto, also with regard to interstate quarantine regulations. The act of July 1, 1902, changed the name of the service to "United States Public Health and Marine-Hospital Service," and the act of Aug. 14, 1912, changed its name to "United States Public Health Service," and further enlarged its scope.

III. THE ORGANIZATION AND WORK OF THE UNITED STATES PUBLIC HEALTH SERVICE

1. Organization.—All maritime and interstate quarantine powers of the United States are vested in the Public Health Service, which is a branch of the United States Treasury Department, and is directed by a supervising surgeon-general. The service has six administrative divisions, each in charge of an assistant surgeon-general. These divisions, named in the order mentioned in the act of July 1, 1902, are as follows: (1) Marine Hospitals and Relief; (2) Domestic Quarantine; (3) Foreign and Insular Quarantine; (4) Personnel and Accounts; (5) Sanitary Reports and Statistics, and (6) Scientific Research and Sanitation.

2. Staff.—The service is composed of 135 commissioned officers, 283 acting assistant surgeons and 1,014 other employees. By a recent act of Congress, approved Aug. 14, 1912, the salaries of the officers were fixed as follows: Surgeon-General, $6,000; assistant surgeon-general, $4,000; senior surgeons (ten in number), $3,500; surgeon, $3,000; passed assistant surgeon, $2,400; assistant surgeon, $2,000.

3. Duties of the Service.—The service operates forty-eight quarantine stations on the Pacific, the Gulf and the Atlantic seaboards. It also operates the quarantine systems in the Philippine Islands, Hawaiian Islands, Porto Rico and Alaska. The duty of medical inspection of aliens for the determination of diseases deportable under the immigration laws also devolves on the service.[6] In twenty-three marine hospitals and 120 other relief stations it treats annually about 58,000 sick and disabled seamen. It has officers in the ports of China, Japan, India, Europe, Central and South America and the West Indies, to sign the bills of health of vessels, examine immigrants and give general sanitary information, and it also maintains a sanatorium for consumptives in New Mexico and an institution for the investigation of leprosy in Hawaii.[7] The service has its own Hygienic Laboratory in Washington, with a personnel of sixty men, and their bacteriologic and other researches as well as their sanitation studies have resulted in a number of valuable scientific and practical achievements.[8] All the new members of the staff are first attached to some large quarantine station for special training, and then are transferred to the Hygienic Laboratory for experience in the bacteriology of the quarantinable diseases. The service publishes weekly public health reports. These reports usually contain: (1) articles setting forth the results of the studies at the government laboratories, then (2) a survey of health conditions and of public health work carried on in the United States, and (3) a survey of foreign health conditions.

4. Quarantine Regulations.—The service has established uniform quarantine regulations for all ports of the United States. For the purpose of these regulations the following diseases have been made quarantinable: cholera, yellow fever, small-pox, typhus fever, leprosy and plague. Vessels clearing from foreign ports or any port in the dependencies must obtain a bill of health giving detailed information as to the ship, crew, cargo and passengers. Inspection is required of all vessels from infected ports and of all vessels carrying steerage passengers. If sailing from a healthful port the inspection of the vessel is limited to steerage passengers and their living-rooms. All vessels liable to have been infected by a communicable disease are required to be disinfected before the issuance of the bill of health.

IV. ADVANTAGES OF FEDERAL CONTROL OF QUARANTINE

1. Social.—A. The National Character of Modern Maritime Quarantine: Like modern commerce, modern maritime quarantine is not a matter of local character and importance, but is essentially national, or even international in its significance and its bearing on the health of the people. A highly contagious disease brought into one city or state will spread like a conflagration to other cities or states or countries without any regard to imaginary state lines. When New York quarantines vessels and passengers infected with malaria, it is not protecting the citizens of New York so much as those of the South.

B. The National Importance of the Port of New York: The magnitude of its shipping, and its importance as an immigration center, make New York preeminently national in character. As the *Survey* says:

> Here we have the largest quarantine station in the world. Eight hundred thousand persons and eight hundred million

6. Cofer, L. E. (assistant surgeon-general): Quarantine Laws and Their Working, New York Med. Jour., Feb. 10, 1912, p. 304.

7. General Wyman: Work of the Federal Government in the Matter of Health Conservation, Proceedings of the Third Annual Meeting of Life-Insurance Presidents, January, 1910, p. 86.

8. Anderson, John F.: Some Recent Contributions by the U. S. Public Health and Marine-Hospital Service to Preventive Medicine, THE JOURNAL A. M. A., June 8, 1912, p. 1748.

dollars' worth of goods come into the port in a year. Many ships do not so much as touch at a New York dock, but proceed directly from the New York Quarantine to a New Jersey landing, from which both goods and passengers may go directly to the interior of the country without crossing the Hudson. If there ever were a port in which quarantine should be national, it is that of New York.[9]

C. Distribution of Financial Burden: The financial burden of the administration of the New York quarantine, which serves the whole country, rests on New York state alone. For a number of years the New York quarantine was costing the state about $70,000 annually, and the expenses will be much larger in the future.† Under a locally administered quarantine the brunt of the expense of keeping disease out of the country at large is borne, not by the whole nation, but by individual states or localities.

D. Futility of Efforts of Local Quarantines to Keep Out Disease: The record of the work of local quarantines has shown repeatedly that they are unable, without help from outside, to keep out the various quarantinable diseases brought in. This has been admitted in many instances by the states, and many state stations have been voluntarily given over to the national government. In many cases the national government was asked for assistance, and in many other cases it had to give assistance on its own initiative.

In 1893 the Southern states opposed national health legislation, affirming that all fear of yellow fever becoming epidemic again was without foundation, although many people held contrary opinions. It did not take long to prove that there was no basis for this sense of security. The yellow fever epidemic of 1897 long defied all efforts of the local and state health boards to stamp it out, and they were finally obliged to ask aid from other sections of the country.[10] In 1897 Drake[11] wrote that the yellow fever outbreak in the South of that year fully demonstrated that state and municipal health authorities were inadequate to prevent the entrance and spread of infectious and contagious diseases, and emphasized the necessity of national action in dealing with cholera, yellow fever, small-pox and the plague, which was finally decided on by Congress in 1906.

As regards New York, the state was unable to cope with the cholera situation of 1892. Federal officers had to be sent to assist the state officers, and President Harrison had to act by issuing an order to hold cholera-infected ships at quarantine for twenty days.

The local administration of quarantine by men ill qualified to perform such duties led often to humorous absurdities through the tenacious and indiscriminate adherence to routine practice. Harrington cites, among other almost incredible instances, an incident when the municipal authorities at one port required thorough disinfection of a barrel of carbolic acid before it was allowed to be landed.[12]

2. Administrative.—A. Uniformity of Quarantine Regulations and Quarantine Procedure: As has been shown above in the cursory survey of the history of quarantine administration in Europe and in the United States, the need of uniformity of quarantine regulations and rules was appreciated long ago, but was not definitely formulated until the middle of the last century. All the quarantine conferences, national and international, strongly recommended uniformity of quarantine rules as a matter greatly desired for the safeguarding of health as well as a convenience to commerce. It is a great convenience to the maritime interests, no doubt, to know that the requirements of one port apply in the same way and measure to all the other ports. All the most important nations of the world have adopted a uniform system of quarantine rules and regulations in order to facilitate commercial intercourse and make discriminations against countries and individual vessels impossible. The United States is the only country subscribing to the agreement which cannot guarantee that these rules will be the only rules binding the whole country, as two of the most important ports can add anything they please over and above the requirements prescribed by the national government.

B. Conflicts of Authority: On account of the double set of authorities, conflicts sometimes occur which may be fraught with serious consequences to the public welfare. Such a conflict took place in New York in 1892, when the health officer declined to recognize the right of President Harrison to impose a twenty days' quarantine. In this conflict the state had to yield to the United States. Recently friction between the two authorities developed when a Havana liner, to which a clean bill of health was refused by the federal officers at the port of departure, was admitted to pratique by the state officers of New York on the ground that the violation of the rules on the part of the captain of the vessel was a matter to be attended to by the federal government.

C. Cooperation With Other Branches of the Government: The Public Health Service, through the courtesy of the Department of State and its consular bureau, is in direct and constant touch with all parts of the world. While the state quarantine officers receive the weekly bulletins of the bureau, they have not such intimate and direct knowledge of conditions abroad as have the officers of the Public Health Service. To obtain this they are sometimes obliged to send their own officers abroad.

The Treasury Department, by correlating the work of its custom division and revenue cutter division with the quarantine service, is able to furnish the latter with a great amount of assistance. Convenience, economy, efficiency and expediency could also be obtained if the quarantine inspection and the medical examination of immigrants could be conducted by the same set of officers at once, instead of by two sets, one state and the other federal, as is the case at present. The cooperation of other departments might also be obtained readily if need arose. The following incident may serve as an illustration: In the fall of 1892, when cholera was raging in Europe and when all the vessels arriving at New York were to be kept in quarantine for twenty days, the quarantine accommodations of the port were not large enough to hold the persons kept. The Public Health Service undertook to construct temporary camps. The Secretary of the Treasury immediately called on other departments of the government for necessary cooperation. The War Department furnished tents and officers to erect them, and the Navy Department furnished boats for the transportation of supplies and subsequently for the patrol of quarantine grounds. It also furnished marines to maintain the quarantine on land, and the whole camp, consisting of three pavilions, containing 209 staterooms besides nine other tents necessary for the administration of the camp, was finished and

9. Survey, Jan. 27, 1912.

† The budgetary requests of the New York Quarantine for Improvements and Administration for the year 1913 amount to $2,314,780.

10. Girdner, John H.: North Am. Rev., December, 1907, p. 733.

11. Drake, C. M.: North Am. Rev., December, 1897, p. 749.

12. Harrington, Charles: A Manual of Practical Hygiene, Ed. 2, p. 733.

ready for service in eight days—from September 9 to September 17.

Furthermore, the federal government controls all the services incident to the administration of the port of New York, with the single exception of the quarantine. In addition to the customs and immigration administration, the government maintains the revenue cutter service which protects life and property; has control over the hydrography of the port, the navigable channels and the dredging, over lighthouses and exercises care over sick and disabled seamen. It seems but logical and consistent to extend its power to the quarantine and concentrate the whole administration of the port in the hands of the federal government.

3. Political.—The third and perhaps the most important reason for a national control of quarantine is the absolutely imperative need that the office of health officer of a port be taken out of politics. It is universally recognized that scientific work of any kind can be done efficiently only under the condition of permanency of office. The work of quarantine officers is essentially scientific, and the incumbents of these offices should be secure in their positions during good behavior and efficiency. Under state control, as it is at present, changes of personnel may, and often do, occur with each change of administration. Under the federal control there is continuity of service, uniformity of procedure and policy, constant supervision over the acts of the health officers and abundant opportunities for scientific and administrative training in the various parts of the country, such as is not available to the officers of any state.

V. ADVANTAGES OF STATE OR MUNICIPAL CONTROL OF QUARANTINE

The reasons advanced for the retention of state control of quarantine can be classified as: (1) administrative and (2) legal.

1. Administrative.—A. Lack of Experience on the Part of the Public Health Service in Administering Quarantine in Large Ports: It has been asserted that the United States Public Health Service has had no experience in administering large quarantine stations. The ports which are under its control are small ports with an insignificant amount of commerce and immigration. It would be dangerous, therefore, to entrust the administration of ports like New York or Boston to a service that has never dealt with large administrative units.

B. Convenience to Commerce: When reduced to more definite and practical terms, the special convenience to commerce from a local service means quickness of decision in cases of emergency on the part of the health officer who resides in the city, and dispatch in discharging their duties on the part of the officers of the quarantine who, in a port like New York, board vessels at night to prevent delays in landing. It is asserted that a service governed from Washington would be less responsive to the peculiar needs of large ports and the just demands of transportation companies. In extraordinary cases in which immediate and decisive action is needed, the health officer would not be able to undertake the responsibility of an important and special decision.

C. Uniformity of Quarantine Rules Undesirable: Uniform treatment of all vessels and persons subject to quarantine is inadmissible and undesirable, as each section of the country has its own climatic conditions and peculiarities, and should establish rules best fitted to its own conditions.

D. Federal Quarantine Rules Insufficient: The number of diseases which are quarantinable under the federal regulations is not sufficiently inclusive. Some localities quarantine beriberi and other diseases which are not included in the federal rules. Moreover, the federal quarantine examines only foreign vessels, whereas some local quarantines examine thoroughly the coastwise vessels as well.

E. Lack of Personal Responsibility Under Federal Control: Men appointed by the federal government under the civil service rules, who are possibly residents of other states, do not feel so much personal responsibility to the community in which they work as do men whom the community knows and entrusts with such responsible positions as those of the quarantine executives. Such men are liable to have local attachments and sense of responsibility, while this sense is weakened and diffused in the case of federal officers.

2. Legal.—A. Curtailment of Right to Local Protection: The state, it is said, as a matter of expediency and self-preservation, should not lop off any of its arms of protection. States and municipalities should protect the health of their citizens, and should not waive or avoid meeting this responsibility.

B. Federal Control of Quarantine Unconstitutional: In a paper read in Montreal before the British Medical Association in 1897, Dr. R. M. Swearingen, the state health officer of Texas, stated that as, according to the constitution of the United States, the national government cannot, through any of its departments or bureaus, assume any supervision of the police regulations of the states, and as the quarantine laws are among the police regulations, the act of 1893, giving the surgeon-general power to supervise and examine the quarantine laws of all the states, is a clear violation of the constitution.[13] The same question of constitutionality came up after the state of Louisiana transferred the exercise of quarantine laws to the federal government—an action which has found general popular endorsement.

ANALYSIS OF THE ARGUMENTS

The foregoing are the main arguments against a federal control of quarantine. They summarize the doubts and apprehensions of those who saw the federal government's failure to administer efficiently some other branches of government work. When analyzed, they are not, however, convincing. The following is a brief seriatim consideration of all the arguments:

1. The Public Health Service has under its control forty-eight stations, in which are included such ports as Philadelphia, Savannah, Portland (Me.), Mobile, New Orleans, San Francisco, and finally since the spring of this year, Baltimore and Providence. The statement that the Public Health Service has no experience in administering large quarantine stations is untrue at the present time. Moreover, the work done by the service in San Francisco and other large ports is highly creditable and inspires confidence in its competence. It has rarely happened that quarantine officers at New York, when taking office, have had so extensive quarantine experience as have many Public Health Service officers.

2. The advantages which accrue to commerce from an absolute independence of the health officer of the port seem to be exaggerated. In view of the fact that our knowledge of infectious diseases is becoming more accurate, and the quarantine methods more precise, scientific and uniform in application, and that well-recognized

13. The Sanitarian, 1907, p. 427.

principles are displacing former fanciful regulations, problems of an exceptionally perplexing character are likely to be less in number and less baffling. Should an extraordinary occasion arise, communication with Washington, if required, would not nowadays mean a serious delay or inconvenience to commerce. This the shipping interests fully realize, and their representatives, recently interviewed for this purpose by the executive secretary of the committee, expressed their total indifference to the matter of quarantine control, as long as the quarantine administration is efficient and based on modern scientific principles.

3. By uniformity of rules and regulations is not meant a rigid enforcement of one and the same set of rules at all the ports of the country, without any reference to the peculiar climatic, geographic and other conditions and needs of the several sections of the country. The character of commerce and shipping in one part is different from that in another, and methods which are admissible, practical and just at Southern ports within the yellow fever belt need not be enforced at the Northern ports. Deviations from uniform rules within certain limits are unavoidable, but the uniformity of rules renders impossible the shotgun quarantine methods of the past.

4. The federal control of maritime quarantine does not preclude the right of the seaboard states and municipalities to maintain their own quarantines in addition if they so desire. Bangor, Me., Philadelphia, New Bedford, Mass., and many other ports have established quarantine and inspection stations in addition to those of the national government.[14] This establishes cooperation and a double chain of inspection of passengers.

5. The argument that by substituting federal for state quarantine officials their sense of responsibility to the community is weakened does not carry much weight. This can equally well be said of all the other federal employees and agents. The public health officers are under the supervision of the service and are responsible for all their acts. Inefficiency can much more easily be discovered under the federal control than when the health officer is entirely independent, and under no direct supervision of any agency.

6. Confiding the care of maritime quarantine administration to a federal government bureau, which is amply provided with facilities and men to do the work efficiently, is not lopping off any arm of protection of the state. The rights and powers of the state and local boards of health are not curtailed thereby in any wise. Neither is it neglect of duty on the part of the state, but the entrusting of the protection of the public health from an invasion of disease to a body of men able to perform it reliably.

7. As to the question of the constitutionality of the federal control of maritime quarantines, it is now a well-established principle of the law that quarantine regulations are in effect regulations of commerce, and as such national in their nature, thereby coming under the authority of the federal government. Dean Walz of the School of Law of the University of Maine, in a study of the subject,[15] shows by numerous quotations from court decisions that the federal government has undisputed power to enact laws relating to maritime quarantine, and that whenever the federal and the state laws on the subject come into conflict the state laws are superseded by the federal laws by reason of the higher power given to the United States government by the Constitution. He further shows that whether the regulations of quarantine are within the scope of the interstate commerce clause or not is not a question for the courts to decide, but one to be determined by Congress "in the fair exercise of the legislative and political discretion entrusted to it by the people of the United States under the law of the land."

Discussing the same subject before the New York Academy of Medicine Mr. William Williams, commissioner of immigration of the port of New York, came to the same conclusion. He closed by saying that the federal government should perform those functions of government which are national in character, and that from every point of view the business of managing the quarantine at the great port of New York is national in character.[16]

14. Bergey, D. H.: Principles of Hygiene, Ed. 3, p. 452.
15. Walz, William E.: Federal Regulations of Quarantine, Mich. Law Rev., 1906, iv, No. 3.

VI. SUMMARY AND CONCLUSIONS

The report may be briefly summarized as follows:

1. Because of the international character of modern commerce the tendency of the last fifty years has been from local and provincial regulations to uniform national and international rules and laws.

2. Prior to 1893 there was no national system of quarantine in the United States. Since that time forty-eight ports have come under the control of the Public Health Service of the Treasury Department, so that there are at present only two ports whose quarantine stations are managed by local and state authorities.

3. In order that the United States may be a responsible party to international agreements regarding quarantine regulations, it must have control and supervision over all the ports of the country.

4. The record of the past work of the United States Public Health Service is such as to insure confidence in its efficiency. It has a well-trained staff of medical officers and is equipped for efficient quarantine administration.

5. Quarantine work is essentially scientific in its nature and cannot be carried on efficiently unless the tenure of office is independent of changes in administration and of politics.

6. From the point of view of convenience, efficiency and uniformity of administration, economy and law, the arguments are in favor of a national control of quarantine at all the ports of the United States.

RECOMMENDATIONS

The Committee on Public Health, Hospitals and the Budget of the New York Academy of Medicine recommends:

1. That the quarantine station at the port of New York be transferred to the United States Health Service; and

2. That the Council of the New York Academy of Medicine take appropriate action to further actively the above recommendation.

16. Williams, William: The Question of State or Federal Quarantine, New York Med. Jour., Feb. 17, 1912, p. 361.

Infant-Feeding.—No method of infant-feeding can be fairly assayed until puberty is either past or at least near at hand. It is not until the epiphyses are well on their way to fixation, and the sexual glands have taken up their part in the polyglandular complex, that we can be sure that the foundations have been well and truly laid.—F. G. Crookshank in *Brit. Jour. Child. Dis.*

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EPIDEMIC POLIOMYELITIS

FOURTEENTH NOTE: PASSIVE HUMAN CARRIAGE OF THE VIRUS OF POLIOMYELITIS *

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The manner of conveyance of the virus of poliomyelitis to infected persons is not yet wholly worked out. The presence of the virus has been established on the mucous membrane of the nose, throat and intestines of persons ill of poliomyelitis, and on the mucous membrane of the nose and throat of monkeys in which the disease has been produced experimentally. Aside from infected persons and monkeys the virus has once been found in external nature; namely, in sweepings obtained from a room in which patients with poliomyelitis had recently been kept (Neustaedter and Thro). The latter finding indicates that the virus is capable of leaving the infected body in a manner that permits of its persistence as dust. Since the virus has been shown to occur frequently, if not constantly, in the discharges of the nose and throat, it is clear that it must escape into the surroundings of the infected, where, when dried, it would retain its activity for a considerable period of time.

Clinical observation has awarded a definite rôle to healthy human carriers of the poliomyelitic infection, but thus far indubitable experimental demonstration of the occurrence of such passive carriers has not been brought. The obstacles in the way of the demonstration are considerable but not insuperable. Since the virus may leave the infected body by the nasal and buccal discharges, it is to be presumed that if carried and transmitted at all by healthy persons, it would be through the medium of these discharges. This definition does not exclude the soiled hands, objects, etc., from being also a means of transportation. The investigation of the discharges mentioned offers the readiest opportunity to determine the presence of the virus. We possess at present one means only of detecting the virus, and that is its implantation on monkeys, in which it is capable of producing an experimental form of poliomyelitis resembling in all essential respects the spontaneous disease, so-called, occurring in man.

Considerable difficulties, however, surround the initial implantation of the virus on monkeys. Even when the human spinal cord, derived from a recent fatal case of poliomyelitis in man, is employed for inoculation, the experimental infection has not always been produced. We now know that the initial infectivity for monkeys of human strains of the virus varies greatly. In order to secure infection with this human material, large quantities of an emulsion may be required for inoculation. When such emulsions, sufficient to cause the experimental disease, are filtered through a Berkefeld or other candle, the resulting filtrate may fail to cause infection. Moreover, in the successful transfer of the disease from originally infected monkeys to other monkeys, certain strains of the virus have proved more readily inoculable than others.

It is to be presumed that passive carriers will harbor the virus in smaller amount than persons actively ill of poliomyelitis. In dealing with the discharges from the nose and throat it is practicable to employ for inoculation only washings that have been made bacteria-free by filtration. The filtrates consist of saline washings of the upper respiratory mucous membrane and therefore represent at best highly dilute suspensions of the human race of the virus, so to speak. The inoculations are best made simultaneously into the sheath of the sciatic nerves and the peritoneal cavity, or into the brain and peritoneal cavity, and the quantity of fluid employed for the injections may be as great as 200 c.c.

Monkeys possess a certain grade of resistance to infection with the virus of poliomyelitis, even when it is introduced directly into the brain or the nerves. This resistance is readily overcome by a highly active strain of the virus, the most active strains being those which have been passed successively through a large number of monkeys. It is overcome with difficulty, if at all, by the least active human strains. Hence the probability of highly dilute filtrates of human strains of virus causing infection in the monkey is not great.

Besides the frank and unmistakable instances of flaccid paralysis, constituting the most impressive symptom of poliomyelitis, a less definite set of symptoms has been described indicating the abortive form of the disease. It has happened in our experience that such weak filtrates as have been described have failed to produce frank paralysis and yet have given rise to the more indefinite set of symptoms. These relatively slight and indefinite forms of illness following the inoculation do not permit of a conclusion as to the nature of the infection. To prove by immunity tests that they have been instances of true poliomyelitis of a mild form is difficult and not convincing. Nothing less than frank, typical instances of the disease, associated with characteristic lesions in the spinal cord, etc., should be accepted, under the circumstances, as evidence of successful infection. Moreover, this preliminary successful result should be confirmable through reimplantation of the virus, now contained in the spinal cord of the paralyzed monkey, on still other monkeys, in which frank paralysis should occur, and in which the central nervous system should exhibit the characteristic effects of the disease. When these tests have been successfully carried out, we may conclude the demonstration of the presence of the virus to be complete.[1]

In view of the facts related, it is patent that in dealing with washings containing discharges from the upper respiratory tract of persons in contact with active cases of poliomyelitis, failure is much more likely to result than is success. For the same reason we must conclude that failure to obtain infection in the monkey cannot be accepted as positive evidence of an absence of the virus

* From the Rockefeller Institute for Medical Research.

1. It is necessary here to refer to the large and carefully conducted series of tests of suspected human carriers of the poliomyelitic virus made by Kling, Pettersson and Wernstedt (Report of the State Medical Institute of Sweden to the Fifteenth International Congress on Hygiene and Demography, Washington, 1912) in 1911. These investigators believe that they have established the important fact that such carriers occur and are several times more numerous than the frank and abortive cases of poliomyelitis combined. An obstacle to the full acceptance of the conclusions reached by Kling, Pettersson and Wernstedt exists, and that is the absence from the inoculated monkeys, many of which seem to have shown obvious clinical symptoms of poliomyelitis, of characteristic alterations of the central nervous system. These investigators describe a new set of lesions of the spinal cord and medulla, affecting chiefly the glia and nerve-cells and consisting of hypertrophy of the former and hyaline and vacuolar degeneration of the latter, which may even be encroached on by glia cells. Similar lesions have not been observed in fatal cases of poliomyelitis in man, and their specific relation to poliomyelitis should be regarded as still an open question. Account should be taken also of the fact that the monkey organs showing these lesions were reinoculable only occasionally and did not cause, in the second generation in monkeys, the development of characteristic histologic effects. These authors ascribe the atypical lesions to a poliomyelitic virus of diminished virulence. This assumption is probably capable of being confirmed or set aside by successive inoculations of the infected nervous tissue and for the purpose of enhancing its virulence.

from the human materials examined. These considerations, on the other hand, give to a successful result a somewhat intensified value. When it is achieved, it may be taken not only as establishing the occurrence of the virus, but also as indicating its presence in relatively large amount, or the possession of a higher degree of virulence for monkeys than is ordinarily displayed.

We wish to describe an instance of the demonstration of the virus of poliomyelitis on the upper respiratory mucous membranes of healthy human adults, the parents of a child suffering from an acute attack of epidemic poliomyelitis.

E. A., a girl aged 4 years and 4 months, was somewhat ill from October 12 to 17, 1912, when fever and weakness were especially noted. During the evening of the 17th partial paralysis of the legs developed. She was admitted to the hospital of the Rockefeller Institute October 18, at which time the left leg could not be drawn up and was flaccid. Some power remained in the hamstring muscles. The right leg was less affected; it could be drawn up weakly and again extended. Below the knee, however, the muscles were all weak. The respiratory muscles were definitely affected, the right more than the left. The movement of the chest during respiration was almost imperceptible. On account of extraneous causes the child was discharged October 28, at which time improvement had already begun in the intercostal muscles and those of the right leg.

The mother and father of E. A. were subjected to a nasopharyngeal irrigation with normal saline solution October 28. About 150 c.c. of fluid were collected, shaken, and pressed through a Berkefeld filter. This fluid was introduced into a *Macacus cynomolgus* as follows: about 1.5 c.c. were injected into the sheaths of each sciatic nerve, and 140 c.c. into the peritoneal cavity. Recovery from the anesthetic was prompt, and the animal remained well until November 11, when it was noted to be excitable and to drag the right leg. The left leg proved to be weak. November 12 the right leg was definitely flaccid. A lumbar puncture yielded 2.5 c.c. of fluid containing an excess of white corpuscles. November 13, condition unchanged; etherized. The autopsy showed no lesions at the inoculation sites, but the spinal cord appeared edematous. The general viscera were normal in appearance. Portions of the spinal cord and medulla were taken for sections and for preservation in sterile 50 per cent. glycerin solution. The sections showed typical lesions of experimental poliomyelitis, consisting of perivascular, mononuclear infiltration, infiltration of the ground substance of the gray matter, and necrosis and phagocytosis of the ganglion cells of the spinal cord and medulla. December 3 an emulsion of the glycerinated spinal cord of this monkey was injected into each sciatic nerve and into the peritoneal cavity of a *Macacus rhesus* and a *Macacus cynomolgus*. Recovery from the anesthetic was prompt and the animals remained well until December 9, when the rhesus was noted to be excitable. On the 10th a lumbar puncture yielded 3 c.c. of slightly opalescent fluid under increased pressure. It contained an excess of white corpuscles; the globulin reaction was negative. On the 13th the excitability was still present and the legs were moved awkwardly. On the 17th the excitability had diminished and a lumbar puncture yielded 2 c.c. of opalescent fluid giving a faint reaction for globulin with Noguchi's butyric acid test, and showing an excess of white corpuscles. The animal was etherized. Sections of the spinal cord showed infiltrative lesions of poliomyelitis. The cynomolgus became excitable December 10, the condition persisting until the 16th when it was diminished. On the 19th the right leg was partly paralyzed and the left leg was weak. Lumbar puncture gave fluid containing an excess of white corpuscles. On the 20th the right leg was completely flaccid; excitability had increased, and a general tremor was present. On the 21st the right leg was still weaker, and the left leg, right leg, right arm and back were weaker. On the 23d both arms were weak; the animal lay down much of the time. It was etherized. The autopsy showed edema and congestion of the spinal cord, while the organs generally appeared normal. Sections of the cord, medulla and intervertebral ganglia contained typical infiltrative and ganglionic cell lesions, characteristic of poliomyelitis.

The foregoing protocols leave no doubt that the washings from the nasopharynx of the parents of E. A., neither of whom showed any symptoms of illness and who were evidently not suffering from poliomyelitis, contained the virus of epidemic poliomyelitis. The result described brings indubitable evidence of the occurrence of the virus of the disease in the nasopharynx of healthy persons who have been in close contact with an acute case of poliomyelitis, and affords an experimental basis for the belief, based on clinical observation, of the occurrence of passive human carriers of the infection.

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DOUBLE INFECTION WITH THE HUMAN AND BOVINE TYPES OF BACILLUS TUBERCULOSIS*

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The controversy, so vigorously carried on for ten years, regarding the relation between the bovine and the human types of the tubercle bacillus has now largely subsided, leaving most bacteriologists of one opinion; namely, that it is possible to distinguish sharply the one type from the other, and to recognize easily by suitable methods the bovine type when it is recovered from the human body. In the course of the world-wide investigation conducted to establish these relationships, several cases have been described in which there was a double infection—the human type of bacillus being responsible for the lesion in one part of the body, the bovine type for the lesion in another. These cases have recently been summarized by Weber[1] as follows:

1. German Commission Case H-33, both types in mesenteric lymph-node, human type only in bronchial lymph-node.
2. German Commission Case H-38, bovine type in mesenteric lymph-node, human type in spleen.
3. German Commission Case H-74, bovine type in mesenteric lymph-node, human type in meninges and bronchial lymph-node.
4. British Commission Case H-60, both types in the bronchial lymph-nodes, human type only in meninges, lungs and mesenteric lymph-nodes.
5. British Commission Case H-90, both types in the retroperitoneal lymph-nodes, human type only in the mesenteric lymph-nodes.
6. Park and Krumwiede, human type in mesenteric lymph-nodes, bovine type in the meninges.
7. Steffhagen, human type in mesenteric lymph-nodes, bovine type in bronchial lymph-nodes.

In the course of the past two years it has been our custom at the Phipps Institute to isolate and study the tubercle bacillus from those cases of tuberculosis showing a marked departure from the usual course. We have thus encountered the following case of double infection The methods employed in this study and in others of a similar nature were those developed in the laboratory of Theobald Smith, and previously described in full by me in connection with the study of another series of cases.[2]

* From the Henry Phipps Institute of the University of Pennsylvania.

1. Weber, A.: Zur Tuberkulose des Menschen und der Tiere, Centralbl. f. Bakteriol., lxiv, 243 (Festschrift for Dr. Loeffler).
2. Lewis, Paul A.: Tuberculous Cervical Adenitis, Jour. Exper. Med., xii, 82.

W. K., male, aged 52, Hungarian, has lived in America about three years. Before coming to this country, patient had been a butcher. Since coming here he has worked most of the time as a cigar-maker. Clinically, he presents incipient pulmonary tuberculosis. Patient has been disturbed by his lung condition only for a short time, but gives an indefinite history of cough with expectoration, going back eight years. He also presents a warty induration covering about two-thirds of the middle fingers of the right hand. He states that this has existed for five and one-half years. This lesion was referred to a skin specialist who believed it to be tuberculosis verrucosa cutis.

With suitable precautions to avoid contamination of the sputum with milk products, and to remove any sputum contamination from the finger, specimens were collected for examination.

The sputum infected guinea-pigs in the usual way, and the culture recovered was of the usual human type of *Bacillus tuberculosis*. The sputum was also inoculated into rabbits, but gave rise to local tuberculosis only.

The tissue from the finger gave rise to generalized tuberculosis in both guinea-pigs and rabbits. The cultures recovered were of the usual bovine type.

Conclusion: There exist in this patient at one and the same time a chronic pulmonary tuberculosis due to the human type of tubercle bacillus, and a tuberculosis verrucosa cutis due to the bovine type of organism.

The important features of this case and their significance for the larger problems of tuberculosis may be briefly stated: It is fairly certain that the finger infection has existed for five years and that it was acquired from cattle in connection with the man's occupation of butcher. The culture recovered is fully virulent and presents no other point of distinction from the usual bovine type. It may be regarded as unmodified by five years' residence in the human body.

It is also fairly certain that the infection on the finger has followed the usual course of this type of infection, seemingly influenced by the coincident infection in the lungs. This, if it could be considered established fact, would be of considerable importance as throwing light on the essential significance of the phenomena displayed by superinfections. While it is quite probable that the lung disease has existed for a longer time than the lesion on the finger, and that the latter has still not been influenced by the former, the point must unfortunately be left in doubt, owing to the incapacity of the patient to give a precise and reliable history.

This case was presented before the Philadelphia Pathological Society, October, 1912. My thanks are due to Dr. H. R. M. Landis of the Phipps Institute, who called my attention to the case, and to Dr. Frank C. Knowles, who gave a specialist's opinion on the skin lesion.

238 Pine Street.

MYOSITIS OSSIFICANS TRAUMATICA

WILLIAM E. STEVENS, M.D., SAN FRANCISCO

Myositis ossificans is a pathologic condition characterized by the formation of bone in or between the muscles. There are two forms, the progressive, in which ossification successively occurs in many parts of the muscular system, and the traumatic, which is limited to one muscle or group of muscles. The following is an unusual case of the latter type:

The patient is a sheet-metal worker, aged 50, a native of Germany. His father died at the age of 60 after having suffered from a cough for years. The family history is otherwise negative. The patient has never been sick except for an attack of mumps fifteen years ago and occasional colds of short duration. He denies venereal disease and has used very little liquor. In 1869 when 7 years old he was struck on the calf of the leg by a heavy timber. After this injury he began to walk on his toes and has done so ever since so that at the present time there is a talipes equinus with the usual deformity of the bones of the foot. About ten months after the injury the calf of the leg became swollen and tender, discharging pus after several weeks' poulticing. Four or five sinuses formed, one of which remained open for six months. The patient was well until June, 1910, forty-one years later, when the original sinus again broke open, discharging a small amount of greenish pus. He came to me in February, 1911, stating that the leg had been dressed for eight months but refused to heal. At that time there was a large ulcer on the calf of the leg, a discharging sinus, a talipes equinus and extreme atrophy of the muscles of the leg and thigh. The Wassermann and tuberculin tests were negative. On probing, bone could be felt at the bottom of the sinus. A piece of this was removed and on microscopic examination proved to be calcified fibrous tissue.

In this case there is no connection between the new bone and the normal bones of the part. Other unusual features are the great length of time intervening between the original injury and the formation of the recent sinus, and also the talipes equinus.

The etiology of the progressive form of myositis ossificans is unknown. In the traumatic type the majority incline to the belief that together with an abnormal tendency to bone formation the resistance of the muscles to irritation is low owing to some predisposing congenital factor. Some consider the condition due to the inclusion of fetal tissue. Others think that in many cases bone cells may have become detached from the periosteum and carried into the general mass of muscle by the retraction of some separated muscle fibers.

The exciting influence is either a single severe injury or frequent and long-continued irritation and excessive use, as in the rider's bone of the adductor magnus, the fencer's bone in the brachialis anticus, the dancer's bone in the Achilles tendon and the gunner's bone in the pectoralis major. Other muscles affected are the quadriceps extensor femoris, deltoid, masseter, biceps, triceps, subclavius and iliacus.

Many cases of so-called myositis ossificans traumatica are merely instances of exostoses.

Therapeutics

DISTURBANCES OF THE HEART

(Continued from page 127)

CORONARY SCLEROSIS

While disease of the coronary arteries may occur without general arteriosclerosis, it is so frequently associated with it that it is necessary to give a brief description of the general disease. Arteriosclerosis or arteriocapillary fibrosis is really a physiologic process naturally accompanying old age, of which it is a part, or the cause, and it should be considered a pathologic condition only when it occurs prematurely. It may, however, occur at almost any age after 30, and is beginning to be frequent between 40 and 50. In rare instances it may occur between 20 and 30, and even in childhood and youth. It is much more frequent in men than in women. Its most common cause is hypertension; in fact, hypertension generally precedes it. The most frequent cause of hypertension to-day is the strenuousness of life, the next most frequent cause being the toxins circulating in the blood from overeating, overdrinking, overuse of tobacco and the overuse of caffein in the form of coffee, tea or caffein drinks. Another common cause of arteriosclerosis occurring too early is the occurrence of some serious infection in an individual, typhoid fever and sepsis being most frequent. Syphilis is a frequent

cause, especially of that form of arteriosclerosis that shows the greatest amount of disease in the aorta. Mercury used in the treatment of syphilis is more likely, however, than syphilis to be the cause of arteriosclerosis. Although this drug, even with the arsenic injections now in vogue, is necessary for the cure of syphilis, it probably tends to raise the blood-pressure by irritating the kidneys and by diminishing the thyroid secretion, both of these occurrences predisposing to arteriosclerosis. From the fact that lead-poisoning causes an increased blood-pressure, lead is a probable cause of arteriosclerosis. With the greater knowledge of the danger of poisoning possessed by those who work in lead, chronic lead-poisoning is becoming rare, as evidenced by the lessening frequency of wrist-drop and lead colic.

Chronic nephritis is often a coincident disease, but the causes of the arteriosclerosis and the nephritis are generally the same. Alcohol, except as a part of overeating and as a disturber of the digestion, is perhaps not a direct cause of arteriosclerosis, as alcohol is a vasodilator. Hard physical labor and severe athletic work may cause arteriosclerosis to develop, and it is likely to develop in the arteries of the parts most used.

Hypertension is generally a prelude to arteriosclerosis, and everything that tends to increase tension promotes the disease; everything that tends to diminish tension more or less inhibits the disease. Therefore a subsecretion of the thyroid predisposes to arteriosclerosis, and increased secretion of the adrenals predisposes to arteriosclerosis, the thyroid furnishing vasodilator substance and the adrenals vasopressor substance to the blood. Also, if these secretions are abnormal, protein metabolism is more or less disturbed.

While arteriosclerosis often occurs coincidently with gout, and gout apparently may be a cause of arteriosclerosis, still the two diseases are widely dissociated, and the causes are not the same.

Although the arterial pressure has been high before arteriosclerosis developed and may remain high for some time in the arteries, unless the heart fails, the distal peripheral pressure, as in the fingers and toes, may be poor in spite of the high blood-pressure. When the left heart begins to fail, pendent edema readily occurs.

The pathology of arteriosclerosis is a thickening and diminishing elasticity of the arteries, beginning with the inner coat and gradually spreading and involving all the coats, the larger arteries often developing calcareous deposits or thickened cartilaginous plates — an atheroma. If the thickening of the walls of the smaller vessels advances their caliber is diminished, and there may even be complete obstruction (*endarteritis obliterans*). On the other hand, some arteries, especially if the calcareous deposits are considerable, may become weakened in spots and dilatation may occur, causing either smaller or larger aneurysms.

Histologically the disease is a connective tissue formation beginning first as a round-cell infiltration in the subendothelial layer of the intima. This process does not advance homogeneously; one side of an artery may be more affected than the other, and the lumen may be narrowed at one side and not at the other, allowing the artery to expand irregularly from the force of the heart-beat. As the disease continues the internal elastic layer is lost, the muscular coat begins to atrophy, and then small calcareous granules may begin to be deposited, which may form into plates. In the large arteries the advance of the process differs somewhat. There may be more actual inflammatory signs, fatty degeneration may occur, and even a necrosis may take place.

However generally distributed arteriosclerosis is, in some regions the disease is more advanced than in others, and in those regions the most serious symptoms will occur. The regions that can stand the disease least well are the brain and coronary arteries, and next perhaps the legs, at the distal parts at least, where the circulation is always at a disadvantage if the patient is up and about.

The symptoms are increased tension, which means, sooner or later, hypertrophy of the left ventricle and an accentuated closure of the aortic valve. This alone means more and more tendency to aortic irritation and aortic valve irritation, with inflammation, and later deposits of calcareous material perhaps with stiffening of the aortic valve and narrowing, aortic stenosis being the result. If such a patient with the disease advanced to this stage must overwork, or sustains any severe muscle strain, an aneurysm of the aorta may occur. In the meantime, with the advancing degeneration of the cerebral arteries, some sudden cerebral congestion, caused by leaning over, lifting, vomiting or hard coughing, may rupture a cerebral vessel, and all the symptoms of apoplexy are present. If small hemorrhages occur in the arterioles of the extremities, of course the prognosis is not serious. Sometimes some of the smaller vessels of the brain may become obstructed and cerebral degeneration occur. If distal vessels become obstructed, as of the toes or feet, gangrene takes place unless the obstruction occurs at a place where the collateral circulation could save the part from such a death. These are some of the ultimate results of serious and final arteriosclerosis. The more frequent result, when the disease has not advanced so far, is a failing heart, either from degenerative myocarditis, coronary sclerosis or dilatation, with all the symptoms of coronary sclerosis and angina pectoris, or with the symptoms of failing circulation.

With high blood-pressure to the point of beginning endarteritis a gradually increasing force of the apex-beat occurs, the aortic closure is accentuated as just described, the pulse is slow, the tensity of the arteries depends on the stage of the disease, and when the disease is actually present the palpable arteries do not collapse on pressure. They soon lose their elasticity, and if this occurs in parts that are soft and flexible, the arteries become more or less tortuous by the force of the blood-current twisting and bending them, owing to the irregularity of their hardening. The extremities readily become numb, or the part "goes to sleep," as it is termed. This occurs frequently at night. Sooner or later some edema of the feet and legs occurs in the latter part of the day. Sometimes abdominal colic attacks occur, caused by disturbed circulation. Various disturbances of metabolism may occur, depending on the circulation in the different organs or on coincident disease, and the liver, pancreas and kidneys may be affected.

The blood-pressure, if taken in the arms especially, may appear excessively high, but really the actual pressure in the blood-vessels may be low. This is on account of the inability to compress the hardened arteries. A heart may be weak and actually need strengthening even while the blood-pressure reading is high.

The treatment of this disease is successful only in its prevention, and the treatment of hypertension before arteriosclerosis is present will be described later. When the disease is actually present, there is nothing to do except for the patient to stop active labor, never to overeat or overdrink, to prevent, if possible, toxemias

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from the bowels, to keep the colon as clean as possible, and for the physician to give the heart such medicinal aids as seem needed, vasodilators if the heart is acting too strongly, possibly small doses of cardiac tonics if the heart is acting weakly; always with the knowledge that a degenerative myocarditis may be present in considerable amount, or that coronary sclerosis may be present.

As above stated, coronary sclerosis probably seldom occurs without more general arteriosclerosis. Obstruction of the coronary arteries, however, not infrequently occurs at their orifices in conjunction with sclerosis of that region of the aorta and of the aortic valve. The more these arteries are diseased and the more they are obstructed, the more the myocardium of the heart becomes degenerated, softened and weakened, when dilatation of the ventricles, especially the left, is likely to occur. Sooner or later such a condition will cause attacks of angina pectoris and more or less pronounced symptoms of chronic myocarditis and fatty degeneration, as previously described.

The treatment of a suspected coronary sclerosis is the same as that of general arteriosclerosis — primarily the treatment of anything that tends to cause high tension or to produce chronic endarteritis. When either general or local arteriosclerosis is present, the treatment that should be inaugurated comprises anything that would tend to inhibit the endarteritis and the calcification — necessary periods of rest, the interdiction of all physical effort or physical strain, and the regulation of the diet, digestion and elimination. Perhaps there is no greater preventive of the advance of this disease than a diet considerably less than would be suitable for the same individual when in perfect health and at his regular work. The amount of protein especially should be reduced, and the meal hours should be regular. Ordinarily all tea, coffee and tobacco should be forbidden, and alcohol should be allowed only to the aged, if allowed at all.

It has long been considered that iodin would inhibit abnormal connective-tissue growth. Iodin most readily reaches the blood as a sodium or potassium iodid. Large amounts of iodin are not needed to saturate the requirements of the system for iodin, 0.1 to 0.2 gm. (1½ to 3 grains) preferably of sodium iodid, twice a day, after meals, given with plenty of water, being sufficient; but it should be continued in one or two doses a day not only for weeks, but for months. Whether this iodid or iodin acts *per se*, or acts by stimulating the thyroid gland to increased activity and therefore to more normal activity, so that it is the thyroid secretion that is of benefit, it is difficult to decide. In view of the fact that in advanced years the thyroid is always subsecreting, and after the very diseases that cause arteriosclerosis or during the diseases that cause arteriosclerosis the thyroid is generally subsecreting, it would appear that the value of iodin is in its effect in stimulating the thyroid gland.

If a small amount of thyroid secretion is evidenced by other symptoms, thyroid extract should be given. The dose need not be large, and should be small, but should be given for a considerable length of time. If the patient seems to be improving on small doses of iodid, however, and the thyroid is supposed not to be very deficient, it is better not to administer thyroid extract, unless the patient is obese.

A serum treatment given intravenously, hypodermatically, by the mouth, and by the rectum was inaugurated some years ago (1901 and 1902), and is known as the "Trunecek serum." This first consisted of sodium sulphate, sodium chlorid, sodium phosphate, sodium bicarbonate and potassium sulphate in water in such amounts as to simulate the blood-plasma. Later small amounts of calcium and magnesium phosphate were added to the solution to be injected. These injections seemed to lower the blood-pressure, but it is doubtful whether they had any greater ability than a proper regulation of the diet to inhibit arteriosclerosis. At any rate, these injections are but seldom used.

An important means of inhibiting disturbance from any arteriosclerosis which should be employed when possible is the climate treatment. Warm, equable climates, in which there are no sudden radical changes, are advantageous when coronary sclerosis is suspected, and warm climates are valuable in promoting the peripheral circulation and lowering the blood-pressure in arteriosclerosis. These patients always require more heat than normal persons, always feel the cold severely, and their hearts always have much less disturbance, fewer irregularities and fewer attacks of pain during warm weather than during cold weather.

Simple hydrotherapeutic measures are also necessary for these patients, but baths should not be used to the point of causing debility and prostration. Applications of cold water in any form are generally inadvisable. Very hot baths are also inadvisable; but pleasantly warm baths, taken at such frequency as found to be of benefit to the individual, relax the peripheral circulation, relieve the tension of the internal vessels, lessen the work of the heart, and promote healthy secretion of the skin, the skin of arteriosclerotic patients often being dry. This dry skin is especially frequent if there is any kidney insufficiency, which so soon and so readily becomes a part of the arteriosclerotic process.

If the patient is old, small doses of alcohol may act physiologically for good. In these arteriosclerotic patients the activities of alcohol should be considered from the drug point of view, not from that of an intoxicating beverage. Other drugs will be considered in the discussion of hypertension.

If the heart actually fails, the treatment becomes that of chronic myocarditis and of dilatation.

Not infrequently in sclerosis of the arteries, especially of the coronary arteries, the blood-pressure is not high, but low, and the heart is insufficient. In such patients cardiac tonics may be considered, but they must be used with great care. Digitalis may be needed, but it should be tried in small doses. It often makes a heart with arteriosclerosis have severe anginal attacks. On the other hand, if the heart pangs or heart aches and the sluggish circulation are due to myocardial weakness without much actual degeneration, digitalis may be of marked benefit. The value of digitalis in doubtful instances will be evidenced by an improved circulation in the extremities, a feeling of general warmth instead of chilliness and cold, an increased output of urine, and less breathlessness on slight exertion.

(To be continued)

Medicine in the Twentieth Century.—The nineteenth century worked for the individual. One by one each disease was investigated and the results applied to the relief of the individual patient. The twentieth century starts out with a broader conception of the function of medicine. It is working for the masses in the prevention of disease. Care of the public health has become the most important duty of the state.—Mayo in *Boston Med. and Surg. Jour.*

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SATURDAY, JANUARY 18, 1913

TUMORS OF THE UROGENITAL TRACT IN ANILIN-DYE WORKERS

In 1895 Rehn described three tumors of the urinary bladder in fuchsin workers, and after a critical study of his cases concluded that the liberation of such products as toluidin, nitrobenzene and anilin, when crude fuchsin is heated, in all probability was an important factor in the causation of the tumors. Since 1895, forty-one cases of tumors of the urogenital system in anilin-dye workers have been reported. Leuenberger[1] in a recent article on this subject reports eighteen additional cases. On reviewing the death statistics of the city of Basel for the period 1901-1910, Leuenberger finds that deaths due to tumors of the urinary passages were thirty-three times more numerous in anilin-dye workers than in workmen of other classes. Statistics of the Basel University clinic indicate that over 50 per cent. of all cases of tumors of the urinary bladder in patients admitted to the hospital during a period of fifty years occurred in anilin-dye workers. This striking preponderance of tumors of the urinary passages in workmen of this class has now become so evident that special hygienic regulations are called for in the manufacture of these dyes.

Carcinomas have been more frequently reported than other tumors. In some cases the carcinoma has developed on a benign polyp or adenoma. In a few instances sarcomas have been reported, so that it would seem that whatever the stimulating or exciting substance may be, it is capable of acting on both epithelial and connective-tissue elements. Leuenberger's hypothesis is that primarily a chemical irritation of the mucous membranes results in an inflammation from which secondarily tumor formation follows. Just why the urinary passages should be the seat of this process has been the subject of much speculation. Leuenberger concludes that the stimulating substances occur in greater concentration in the urinary passages than in any other place in the body. Discussing the chemistry of the substances in question he advances the view that the substances productive of tumor formation in the urinary passages of anilin-dye workers are monomolecular and polymolecular phenolamines. The oxidation of these compounds is accomplished in the tissues, the OH molecule affixing itself in the para-position in the aromatic ring.

Leuenberger further calls attention to other occupational tumors, more especially carcinomas occurring in chimney-sweeps, petroleum refiners and paraffin workers. In his opinion the action of coal soot, the end-products of petroleum refining and the paraffin press oils, all give rise to aromatic amido-combinations, which after assimilation and oxidation in the organism become the tumor-inciting substances. Clinically carcinomas in anilin-dye workers appear relatively early, between the ages of from 30 to 40 years. All of the patients have had hematuria and stranguria at some previous time.

The skin and the respiratory tract are considered the most important portals of entrance of the substances into the body. Because of the absorbent power of the skin it is especially important that the workmen should bathe daily. Impervious clothing and gloves should be worn. The toxic substances are lipoid-soluble, and the smearing of the skin surfaces with ointments is especially contra-indicated. Masks against dust and vapors should be worn in the workrooms where the dyes are ground and about the vats where the dyes are dissolved. The ventilation in the workrooms should be of the best; vapors from dye vats should be drawn off by fans. Only healthy persons should be employed. Employees presenting the slightest urinary symptoms should discontinue this line of work immediately, and early cystoscopic examination should be practiced. After the installation of regulations of this type in a certain factory, no cases of tumor or hematuria developed in any of its employees during a period of six years. That conditions consequently can be improved by the enforcement of proper measures is without question, and in this respect the tumors of the anilin-dye worker do not differ from other occupational diseases, the incidence of which may be greatly reduced through control based on the scientific study of the causes.

1. Leuenberger, S. G.: Beitr. z. klin. Chir., 1912, lxxx, 208; abstr., THE JOURNAL A. M. A., Nov. 30, 1912, p. 2069.

OLD AGE AGAIN DEFERRED

As most readers of popular scientific literature are aware, one of the postulates of Metchnikoff's theory of old age is that the pathologic tissue changes incident to senility are directly comparable to the structural alterations resulting from intoxication by certain poisons, notably those which have a bacterial origin in the alimentary tract. Lead salts, alcohol and tobacco can induce interstitial nephritis, hepatic cirrhosis and degenerative manifestations in the arterial system. Similarly there are lesions referable, according to this theory, to the intestinal flora which is assumed to play an important part in the etiology of arteriosclerosis and the sclerotic changes that occur in other organs. The preservation of these parts in unimpaired anatomic and functional integrity therefore calls for a knowledge of

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the immediate toxic substances and likewise of the organisms on the existence of which the genesis of the poisons depends.

The place of first importance among the bacterial products made responsible for this form of chronic "auto-intoxication" is assigned to phenol and indol derivatives. These have long been recognized as products of bacterial activity, especially under the environmental conditions that necessarily prevail in the digestive tube. They are commonly admitted to exhibit some degree of toxicity, although investigators have by no means been in accord as to the extent to which these putrefaction products are responsible for the great variety of manifestations of ill health or disturbed function which have at times been charged to them. Long ago it was pointed out that so far as acute manifestations of illness or even malaise are concerned, the effective dosage must be distinctly larger than experience would lead us to assign to alimentary sources under ordinary conditions. In place of probable milligrams produced in the intestine it was necessary to employ decigrams in the experiment in order to call forth palpable departures from normal health and function. At this time it was also pointed out that whereas substances like indol may not act as pronounced poisons when administered in small but "physiologic" doses, their toxic manifestations become emphasized distinctly when there is some simultaneous perversion in the body. When, for example, the liver functions are disturbed, the toxicity of indol is exemplified by doses which leave no apparent symptoms in the healthy organism. The individual may become sensitized, as it were, by disease to the damaging influence of a compound which an unimpaired body can competently detoxicate.

The possibility of detrimental effects from small and apparently non-toxic doses of potent poisons of alimentary origin has been developed in still another direction and reinforced by experimental investigations. They may lead to gradual and remote alterations of the character to which reference has already been made: slow structural kidney changes, development of sclerotic processes, and gradual morphologic alterations in the elements of the nervous system. It is with these less immediate yet more significant detrimental manifestations that Metchnikoff's theory is chiefly concerned.

The search for the real generators of the alimentary poisons and the identification of the "undesirable citizens" of the digestive tract become a desideratum as soon as the preceding contentions are admitted. Regarding the immediate sources of such products as indol and phenol there need be no doubt. They come from the proteins through microbial activities, not by digestive changes effected by enzymes or by metabolic transformations, as at one time supposed. It is unnecessary to dwell on the struggle between the varying races of organisms for supremacy in the intestinal tract of man. Much of this story has filtered through the public press and with various embellishments has become a familiar topic in the layman's household. The alleged superiority of lactic-acid-producing organisms in checking the putrefactive anaerobes, the health and vigor of the peoples who facilitate the predominance of the benign species by the liberal use of infected food products such as sour milks, and finally, the unique longevity manifested by some of the devotees have been widely heralded.[1] The *Bacillus bulgaricus* has become almost a household word — and incidentally enriched many who have known how to embody the magic word in the label of a salable product. The vagaries of this microorganism have been discussed from time to time in THE JOURNAL.

A competitor has entered the field. Metchnikoff and Wollman[2] have isolated from fecal matter a bacillus, *Glycobacter peptolyticus*, which is said to have distinct amylolytic properties without the putrefactive propensities common to most similar species. In the presence of suitable carbohydrate pabulum, notably starch as it is found in potatoes, the glycobacter is reported to check the alimentary putrefactive production of phenols and indol so that the output of their derivatives in the urine (which serves as an index to the alimentary conditions) is greatly reduced. Sour-milk therapy is thus supplemented by the potato-glycobacter regimen, for which there are published a few statistics quite as striking as those which accompanied the earlier *B. bulgaricus* propaganda.

It would be an injustice to say that such studies are not stimulating and suggestive. They should and will furnish the incentives for further investigation in the promising and largely unexplored field of the interrelation of alimentary bacteria and physiologic functions. But it is a great step from sour milk to long life, and the chain of argument has many links that will bear a most critical inspection before it can be accepted as a dependable help. Some have already shown their weakness. Hasty generalizations invariably call for retraction or revision. This is inevitably the case when one attempts to encompass an almost endless number of variables (such as exist in the gastro-intestinal tract of man) from a single point of view. Science must then listen to just criticism of its unscientific methods. The layman becomes skeptical about the trustworthiness of the pronouncements of science in general, and in this respect the average medical practitioner joins his ranks. The lay press spreads the errors, especially when they carry the endorsement of a prominent name, but it never retracts; and the public pays rich royalties into the pockets of those who know how to exploit an opportunity to promote health. These are days of undue haste which reflects itself in science in unfortunate ways. *Festina lente.*

1. Metchnikoff: Essais optimistes, Paris, 1907.
2. Metchnikoff, E., and Wollman, E.: Sur quelques essais de désintoxication intestinale, Ann. de l'Inst. Pasteur, November, 1912, p. 825. See also Wollman, E.: Recherches sur les microbes amylolytiques de l'intestin, ibid., August, 1912; abstr., THE JOURNAL A. M. A., Oct. 12, 1912, p. 1409.

SUNLIGHT IN THE TROPICS

One of the last contributions to science from the late Prof. Paul C. Freer, director of the Bureau of Science of the Government of the Philippine Islands, was published, just before his lamented death, in the journal which he founded at Manila and of which he was editor-in-chief.[1] It deals with the results of the study of tropical climate — a subject to which Dr. Freer devoted considerable attention and the investigation of which he encouraged in many directions. The problems involved have not only a large scientific interest attached to them, but also a practical importance which is most timely to a nation engaged in the management of tropical or subtropical possessions and necessarily concerned with health conditions which pertain thereto. Most of the rather copious semipopular literature on climate and hygiene in the tropics, especially that dealing with the effects of light and heat, consists of statistical generalizations from passing impressions, and cannot be accepted without critical analysis. We have previously referred[2] to some of the scientific climatologic studies made by the investigators resident in Manila. We shall not refrain from rehearsing some of the findings again, because Freer's analysis of them represents the judgment of one who had an intelligent appreciation of some of the varied influences which play a part in the life of our tropical dependents.

Tropical sunlight has been charged with especially detrimental effects, as if it were different from sunlight in other parts of the world. The light which reaches the surface of the earth is composed of the ultraviolet rays, the rays of the visible spectrum, and the infrared rays associated with the heat phenomena. To the short rays of the ultraviolet portions harmful effects have especially been charged in addition to the damage attributable to the heat factors. Ultraviolet rays, however, are easily guarded against by the use of white clothing; heat rays are not. Aron[3] showed that when monkeys, which are naturally at home in the tropics and might be expected to be able to withstand the effects of sunlight, are exposed to the full sun without protection or artificial means of lowering the temperature, they speedily die, exhibiting a steady rise in temperature. If, however, care is taken to conduct away the excessive heat increment by means of a brisk current of air from a fan, the body temperature remains approximately normal and the animals remain healthy. Under these conditions heat alone is conducted away. If the untoward effects of sunlight in such fatal cases as are described above were to be attributed to the absorption of the ultraviolet rays, their influence should likewise become apparent even when a blast of air is present.

In man the possibility of heat regulation by evaporation is much more complete than in experimental animals, in which the sweat-glands are not so highly developed; and this adaptable mechanism for heat regulation enables human beings to lower their temperature and protect themselves from such fatal effects as are observed in monkeys. It has been of obvious interest to ascertain the bearing of racial characteristics and changes produced by acclimatization on the ability of different individuals to withstand sunlight well. The relative advantages of dark-skinned races over those with lighter-colored skins has been variously debated. There are several conflicting factors involved.[4] The dark skin of the negro will absorb heat more readily than the lighter ones of the white races, but the darker colors also have a greater radiating power. Accordingly the heat rapidly taken up on the sunny side of the dark-skinned will also be lost rapidly on the shaded side. The darker skins also appear to contain a larger percentage of sweat-glands. A further advantage consists in the lessened susceptibility to injury from the sun's rays in the form of sunburn, an effect which is so pronounced on the nerve endings and peripheral blood-vessels in white persons. The pigmentation of the darker skins offsets the flushing of the skin, and thus affords a protection which makes up for its more ready absorption of heat.

If, after weighing these various counterbalancing features, it is concluded that the darker-skinned races may be somewhat better prepared to withstand the sun, the white man can obtain adequate protection at all times by shade. Freer's last opinion is: "Given ample shade, and any race is adapted to resist the sun alone of tropical climates; the white man should be better able to do so than the colored. It would seem to me as if the dark skin of the negro was a result of excessive insolation, for it is certain that in a state of nature the negro would seek the shade, intuitively, and in the earliest times he probably was exclusively a forest dweller. The color of his skin would, therefore, more probably be protective just as protective coloring is developed in animals other than man."

There is always a danger in too broad generalization from a few facts, and we must warn against overhasty or unwarranted conclusions in respect to the topic under review. It is one point to be equipped by nature to withstand a tropical sun; but this is not necessarily equivalent to a capacity to endure a tropical climate into which many other aspects besides mere insolation enter. These deserve consideration quite apart from the contentions just advanced; and the diverse factors contributing to comfort and health should never be confused.

1. Freer, Paul C.: The Result of the Past Two Years' Work in the Study of Tropical Sunlight, Philippine Jour. Sc., B; Philippine Jour. Trop. Med., 1912, vii, 1.

2. Civilization and the Tropics, editorial, THE JOURNAL A. M. A., Aug. 12, 1911, p. 567; The Action of Tropical Sunlight, editorial, ibid., Sept. 23, 1911, p. 1058; Complexion and Health in the Tropics, editorial, ibid., June 1, 1912, p. 1688; The Condition of the Blood During Residence in the Tropics, editorial, ibid., June 8, 1912, p. 1759.

3. Aron, Hans: Philippine Jour. Sc., B, 1911, vi, 161.

4. Compare Gibbs, H. D.: A Study of the Effect of Tropical Sunlight on Men, Monkeys and Rabbits, and a Discussion of the Proper Clothing for the Tropical Climate, Philippine Jour. Sc., B; Philippine Jour. Trop. Med., 1912, vii, 91.

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THE BANANA—A FRUIT IN A STERILE PACKAGE

With the increasing demand for fresh fruits at all seasons of the year has come the attendant difficulty of supplying them in a condition in which the dangers of contamination are largely averted. The possibilities of microbial invasion of edible products are always at hand; and the actuality of decay through the agency of organisms is one of the limiting factors in the use of fresh fruits. Among the many types of these that command attention in the dietary there is one which is equipped in its native form with a protective environment that calls for more than passing mention. Some time ago we emphasized the advantages afforded by the banana as a wholesome food and ventured the suggestion that this fruit, though growing in popularity, is still underestimated in American households, largely because it is eaten when not fully ripe.[1]

The banana consists, in its green state, largely of starch aside from the water content conspicuous in all such products. The essential change during the process of ripening manifests itself in a conversion of the starch into soluble carbohydrates among which sucrose, invert sugar and dextrins are the conspicuous components. The rate of ripening is dependent on the temperature and is thus subject to modification and control within certain ranges. This fact of itself suggests advantages in regulating the availability of the product to suit the needs of the market and the consumer. The edible portion of each fruit is packed away in a fairly resistant covering or peel which serves a more useful purpose and exhibits a far more efficient protection to the inner contents than has hitherto been realized or anticipated. Dr. E. M. Bailey[2] has made extensive bacteriologic examinations of the fruits in different stages of maturation, all of which justify the conclusion that the inner portions of the pulp of sound bananas are practically sterile. The regions of the inner coats of the peel may be sparsely inhabited by bacteria which are held in check during the normal ripening processes, but subsequently may find conditions favorable to growth. The peel is singularly resistant to invasion by bacteria. Even when fruits were subjected to the exceptionally severe test of being immersed in fluids containing cultures of known organisms there was no evidence of a penetration into the interior. The probability of infection through the peel is therefore very slight, though, of course, germs deposited on the peel might be transferred to the consumer's fingers and thence to the mouth. It is not unlikely that the few organisms commonly found along the inner coat reach it through the circulation of the plant juices while the fruit is still on the tree. Apparently natural decay begins only after the banana has reached a stage of relaxed enzymatic activity, and the biochemical changes incident to ripening are complete. Until then the normal fruit tissue seems to exert a deterrent action toward any infecting organisms.

Obviously injury to the protective coat destroys the perfection of the defense against microbial invasion; and it is at the site of abrasions on the surface of the peel that the objectionable decay usually starts. It is important to appreciate this interesting example of a food delivered by Nature in practically sterile packages with the ready possibility of being distributed in this form by man, provided that the exigencies of the case are duly appreciated alike by dealers and purchasers. Nature's wholesome service should not be undone by careless methods of marketing such foods.

1. The Undervalued Banana, editorial, THE JOURNAL A. M. A., Jan. 27, 1912, p. 276.
2. Bailey, E. Monroe: Biochemical and Bacteriologic Studies on the Banana, Jour. Am. Chem. Soc., 1912, xxxiv, 1706.

THE PROBLEM OF THE FEEBLE-MINDED AMONG IMMIGRANTS

We have previously commented[1] on the problem presented by the number of insane among immigrants to this country who in spite of the best available inspection succeed in gaining entrance, or who become insane within a comparatively short period after their arrival. The detection of feeble-minded immigrants who may fail to become entirely self-supporting, later, perhaps, becoming public charges, is an allied but distinct problem and requires of inspectors a different training from that which enables the too limited number of expert inspectors to detect the insane with great accuracy. Some experiments which prove this and which indicate the manner in which the immigrant inspection service might be greatly improved in this respect are detailed in an article by Goddard,[2] director of the research laboratory of the Training School at Vineland, N. J.

In the first experiment two experts from the laboratory of the Vineland institution for the feeble-minded visited Ellis Island. After observing the method by which the inspections were conducted, the request was made that these two laboratory experts be allowed to test such immigrants as seemed mentally defective. After being picked as they passed in line by one of these experts, they were sent to the other expert without indication as to whether they were normal or defective and, with the aid of an interpreter, were given the Binet tests.

Twelve immigrants were selected, nine being picked because they were thought to be mentally defective and three as control cases, the opinion of the expert being that they were normal. Of the nine suspects every one was from four to nine years backward as shown by the Binet scale; of the three controls, one was 7 years old and tested 6; one was 9 years old and tested 10; one was adult and went successfully through all the tests.

1. Mental Disorders and Immigration, editorial, THE JOURNAL A. M. A., March 30, 1912, p. 938; Proposed Amendments to the Immigration Law, editorial, April 27, 1912, p. 1286; The Insanity Problem, editorial, Aug. 17, 1912, p. 545.
2. Goddard, H. H.: The Training School, November and December, 1912, p. 109.

The success of this experiment encouraged a second experiment to last a week. The number tested in this experiment was forty-four, of whom thirty-three were selected by the regular medical inspectors of the department. Of these, fifteen proved to be defective while eighteen were normal. Eleven cases were selected by the experts from the Vineland institution and of these, by the test, only two were found not defective, and one of these had been selected to compare with a sister who was obviously defective. In this experiment it is seen that less than one-half were correctly selected by the regular inspectors, while the experts correctly chose seven-eighths of the number. On the last day of the experiment the Vineland experts simply tallied all immigrants who appeared defective without calling them out of the line, while the physicians of the inspection department called out those whom they determined to be defective. Out of twelve hundred and sixty immigrants who passed in line the experts reported eighty-three as defective; the physicians selected eighteen. On the same ratio of correct selections as that detailed above, there were at least seventy-two defectives in the twelve hundred immigrants, of whom the physicians of the department recognized only eight, or approximately 10 per cent., which shows by contrast the value of special training in the sifting out of the feeble-minded from among the normal.

Another highly interesting feature of this test was the percentage distribution of these immigrants in relation to the country of their origin. Of the entire number, six hundred were from Southern Europe; of these, forty-six, or 7.5 per cent. were recognized as defective; two hundred and sixty were from a different section of Southern Europe, of whom twenty-four, or 9 per cent., were picked as defective. The remaining four hundred were from Northern Europe and among them thirteen, or 3.25 per cent., were selected as defective. This in comparison with the estimated three or four defectives per thousand of the population in the United States shows an enormous proportion of defectives among the immigrants. Incidentally, this observation seems to furnish a strong argument against Dr. Goddard's views on the relative proportions of native-born and foreign-born defectives, commented on last week.

In view of the steady and enormous stream of immigration to this country from foreign lands the conclusions to be drawn from this showing are so obvious that no extended statement of them need be made. It may be said, however, without desiring to criticize the present overworked inspection service that, as suggested by Goddard, the training in some institution for the feeble-minded for a year or two, and the addition of a half dozen inspectors would vastly improve the immigrant inspection service. This together with some amendment of the immigration laws, a question at this moment before Congress, or a stricter enforcement of the present law in regard to deportation of defectives after their determination, would certainly relieve the country of an enormous and continuing burden of expense and responsibility, to say nothing of the deleterious effect of this defective stock on the entire social fabric.

Current Comment

RECOMMENDED IMPROVEMENTS IN METHODS OF EXAMINING IMMIGRANTS

A conference of distinguished alienists and social workers met in New York in November, 1912, and addressed to the respective chairmen of the committees on immigration of the two houses of Congress, a series of resolutions which set forth the needed amendments to the immigration laws, as understood by them. It is recommended, among other things, that a commissioned medical officer of the Public Health Service be detailed to each vessel bringing immigrants to the United States, so that the immigrants might be examined during the voyage with special reference to their mental condition; that a sufficient number of medical officers with special training and experience in the detection of insanity and mental defectiveness be detailed for duty at Ellis Island at all times, and at least one such medical officer to every other large port of entry, and that they be given the facilities, interpreters, etc., necessary to make efficient examinations; that the period during which mentally defective aliens or those becoming insane after entry may be deported be extended to five years instead of three as at present. The conference also favored the medical examination of immigrants at their point of foreign embarkation. The need for specially trained examiners for the detection of insanity and mental defectiveness is emphasized in the preceding editorial.

THE ACCELERATION OF TISSUE GROWTH

Biologists have realized for a long time that certain typical changes which living cells are capable of undergoing can be greatly modified, particularly in the sense of retardation or acceleration, by the character of the environment to which the cells are exposed. This is conspicuously true in respect to the phenomena of growth which proceeds from cell division. Relatively slight alterations in the concentration or the chemical composition of sea-water, for example, profoundly alter the rate of cleavage and development of the eggs of marine forms; and the phagocytic response of certain blood-cells is conspicuously modified by the character of the medium in which they exist. Our knowledge of this feature has been much increased since the study of the opsonins was inaugurated a few years ago. A consideration of the fact that the multiplication of cells and the growth of tissues can be modified through the control or alteration of their chemical environment has led Dr. Alexis Carrel of the Rockefeller Institute for Medical Research to investigate the possibility of artificially activating the process of repair in damaged tissues. If aseptic wounds could be made to cicatrize more rapidly,

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the healing of cutaneous wounds and the cure of fractures might be greatly accelerated. Several years ago Dr. Carrel observed that the proliferation of epithelium and of connective tissue was activated under certain conditions by dressings made with the pulp of organs and tissues. For instance, thyroid gland pulp deposited on cutaneous wounds brought about the formation of exuberant granulations, and when applied to bones it produced a marked thickening of the periosteum. The method of studying such phenomena in living animals is extremely complex, and the more exact analysis of the numerous possible or complicating factors at work demands some simpler mode of procedure before the underlying secrets can be extracted. For this reason Dr. Carrel has first undertaken a more precise technic by studying the influence of tissue juices on the growth *in vitro* of connective tissue, and some of the characteristics of their activating power.[1] This method of cultivating the mammalian tissues isolated from the organism has been evolved from Harrison's ingenious experiments in which the growth of isolated nervous tissue was first demonstrated. It has since, of course, been widely applied in other fields, particularly in the investigation of the growth of tumor cells. In the particular studies here referred to the method consisted in measuring the extent of the growth of fragments of tissues placed in normal plasma and in plasma containing a known quantity of a tissue juice. The experiments of Carrel leave little doubt that under appropriate conditions extracts of certain tissues can greatly accelerate the growth *in vitro* of the connective tissue. Fragments of heart, skin and periosteum grow much more rapidly when cultivated in plasma containing a tissue extract than in plasma alone. The tissues are not of equal import in respect to this activating power. Extracts of embryos, for example, seem to be particularly potent. The stimulating property appears not to apply to the tissues of a heterologous animal; and it is completely suppressed by heating at 70 C. (158 F.) or by filtration through a porcelain filter.

1. Carrel, Alexis: Artificial Activation of the Growth in Vitro of Connective Tissue, Jour. Exper. Med., 1913, xvii, 14.

SCIENCE AND NEWSPAPER SENSATIONALISM

Whether or not the interesting observations mentioned in the preceding comment will find an immediate practical application in the domain of wound-healing is a secondary consideration at present. Their chief value to-day lies in the promise which they afford in common with other studies that the factors in tissue growth are amenable to experimental methods of study. That the daily newspaper has already magnified the modest findings into the immediate possibility of healing broken legs over night can only be deprecated. We have now and then been scored for counseling an attitude of healthy skepticism in the incipient stages of new investigations. False hopes and unfulfilled promises not only injure the individual, but when distributed through the medium of the public press they react on the profession as a whole. So long as what a newspaper says is implicitly believed in by a large class there is danger in the garbled reports and one-line excerpts from scientific contributions. The aim of every editor is brevity, and the limitations of the subject which he is presenting in the news columns are too often never mentioned. The newspaper public thus gradually acquires a subconscious distrust of the medical fraternity which has not "made good" on this or that alleged revolutionary discovery—in reality no discovery at all, but only a catchword or figment of the imagination of an overzealous reporter. It has been stated by the defenders of the modern press that whatever harm it does is more than compensated for by the good it accomplishes, so that in casting up the account the balance is on the side of good. It is contended that reading leads to a desire to acquire knowledge, and that as soon as knowledge is gained there is a demand for something more worthy; the bad newspaper is cast aside and one with greater intelligence and a higher standard takes its place. We agree with Mr. A. Maurice Low that this ingenious argument cannot stand the test of examination. Perverted truth and exaggerated style can scarcely create a demand for something better. "A man who must have strong meat finds less highly seasoned food without savor." The newspaper described does not lead the reader by easy steps to a higher level, but "drags him down to its own level of dishonesty and baseness until morally, intellectually and ethically he is the worse for having fed on that which has been his sole diet."

THE HYPOCHLORITE TREATMENT OF WATER-SUPPLIES

We have several times referred to the increasing use of hypochlorite as a disinfecting agent in connection with polluted water-supplies. The evidence that continues to come to hand concerning the success of this procedure is still of a highly favorable character. Jennings,[1] for example, has recently obtained data from a number of cities in the United States and Canada which have been employing the hypochlorite treatment for considerable periods. Terre Haute, Cedar Rapids (where the results are said to have been "spectacular,") Montreal, Grant's Pass, Ore., Baudette, Minn., Nashville, Cincinnati and Danville, Ill., are all places where a marked reduction in the number of bacteria, including *Bacillus coli*, has been observed in the city water after inauguration of hypochlorite treatment. North Yakima, Wash., Council Bluffs, Ia., Cleveland, Erie, Pa., Toronto, Baltimore, Evanston, Ill., Minneapolis, Omaha, Jersey City and Kansas City, Mo., are among the cities where a noteworthy reduction in typhoid fever has followed the use of hypochlorite. In Cleveland, for instance, the reported deaths from typhoid fever in the four years 1907-1911 (October to June) numbered, respectively, forty-six, fifty-two, sixty-six and sixty-five. In September, 1911, the hypochlorite treatment was begun and for the eight months, Oct. 1, 1911, to June 1, 1912, only twenty-eight deaths were reported. In Jersey City the average death-rate from typhoid for 1905, 1906 and 1907 was 18.5, while for the three years following the use of hypochlorite, 1909-1911, it was 9.6. In Minneapolis there were thirty-nine deaths in the ten months before hypochlorite and two deaths in the ten

1. Jennings: Eng. News, Dec. 12, 1912.

months immediately following its use. Such facts as these establish the high value that may attach to hypochlorite treatment of a water under proper conditions. While no experienced sanitarian can regard the use of this chemical as a panacea, there is no doubt that it has added greatly to our resources for dealing with a polluted water-supply, particularly under emergency conditions and pending the installation of a permanent system of purification. It is unfortunate that many of the published statements regarding the efficacy of the treatment do not state the amount of hypochlorite used, and in the case of typhoid statistics do not cover a sufficiently long period to afford an adequate basis for comparison; but these deficiencies are likely to be remedied in time. On the information now at hand, as presented by Jennings and others, there seems reason for much of the enthusiasm with which the hypochlorite treatment is now being applied.

PRINTERS FAVOR THE OWEN BILL

In the January issue of the *Typographical Journal* under the heading "A Measure Printers Should Favor," appears an editorial endorsement of the Owen bill. After outlining the purport of the bill, the editor says, "As usual, the measure has encountered the opposition of certain interests. To overcome this opposition and to effect the passage of the bill will require educational work and the cooperation of friends of the measure." The *Typographical Journal* recognizes the importance of this measure to the working man. Probably no other class would be so greatly benefited by any improvement in health conditions as would the competent, industrious members of trade-unions. The man who makes his living by the work of his own hands must have health. It is his principal asset. Any measure which improves health conditions is of direct personal interest to the working man. If all other influences for health legislation were silenced, the labor unions of the country alone, if they fully understood its importance, would still demand that Congress pay at least as much attention to health, which is the capital of the laboring man, as it does to currency, banking, the tariff and interstate commerce.

THE NEW SENATOR FROM OREGON

Many of our readers who attended the Portland Session of the Association in 1905 will remember the address of welcome by the mayor, Dr. Harry Lane, a member of the Oregon State Medical Association and of the American Medical Association. Dr. Lane has recently been selected to represent his state in the United States Senate. *Northwest Medicine*, commenting on his election says, "It is gratifying that this august body, having so much to do for the whole people along the lines of sanitation, hygiene, prophylaxis of disease, quarantine, pure food laws and kindred matters, will have the energetic aid of Dr. Lane in their advancement." Oregon is to be congratulated on her new senator, who enters Congress at a time when there is an especial need for the services of men with such training as he possesses. The medical profession of Oregon and the nation are fortunate in having a member who can attain such a high position in the legislative councils of the nation. THE JOURNAL extends its congratulations and best wishes to Senator Lane. May his senatorial career be long and useful, and may he be the forerunner in the Senate of many others like him who will ever keep in mind the maxim of the senator of Rome: *Salus populi suprema lex!*

VANADIUM

In the Propaganda for Reform Department of this issue, the Council on Pharmacy and Chemistry publishes a report on certain proprietary preparations of vanadium. The report is an important one, but in reading it the physician must bear in mind that vanadium itself is not on trial. The report deals only with a group of proprietary preparations of the metal and the claims made for these preparations. Whether or not vanadium has a place in medicine is another question. If it has — and this there is evidence to indicate — the only way in which its value can be proved will be by the careful and painstaking use of preparations put on the market honestly and free from the bias that is inseparable from proprietaries that are sold under grossly exaggerated claims.

MEDICAL COLLEGES OF THE UNITED STATES

The complete classification of the medical colleges of the United States prepared by the Council on Medical Education, following the last inspection, appears in this issue. This classification, the result of seven years of study and investigation of conditions underlying medical education in this country, is the third presented by the Council. The first was included in the report presented to the House of Delegates of the American Medical Association in 1907. That classification was not published, but each college was notified of its standing and, whenever requested by the colleges, detailed reasons for the ratings were furnished. Three years later, in 1910, the Council's second classification was reported to the House of Delegates and was ordered published.[1] Since that time the changes taking place in medical education were being so rapidly brought about, and the second classification had been drawn on such lenient lines, that a third investigation was deemed necessary. Benefiting from previous inspections, the third tour resulted in the securing of complete data regarding all colleges. Special care was taken also to obtain corroboratory evidence supporting all statements made so as to make fully reliable the data obtained. This classification, therefore, is based, not on mere guesswork or opinion, but on facts, and the Council has on file an abundance of data showing the reasons for every rating given. Thus far the Council has published only the classifications, preferring to take up the details directly with the officials of the individual colleges. By this method the Council has had to a remarkable degree the cooperation of the colleges themselves, even including many of those to which only low ratings could be given. Of course, as was to have been expected, there

1. Report of the Reference Committee on Medical Education, THE JOURNAL A. M. A., June 18, 1910, p. 2061.

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have been severe criticisms from certain colleges, and the usual cries of "unfairness," "discrimination" and the like have been raised; some colleges even threatened damage suits. These classifications, however, have done and are doing great good. Thousands of prospective medical students now have the means of knowing the character of the medical schools they choose to attend. Medical colleges have a means of knowing how they rank as compared with other institutions. Following the publication of the second classification in 1910, a number of colleges availed themselves of the Council's detailed reasons for their ratings, and as a result many improvements have been made. In fact, the whole plane of medical education in this country has been and is being rapidly raised. In cities where two or more medical schools were existing, numerous mergers have taken place, resulting in each instance in the formation of one stronger and better-equipped medical school. Entrance standards have been advanced until at present forty-five medical colleges are requiring one or more years of college work, and a similar requirement has been adopted by eleven state licensing boards. A larger number of full-time, expert teachers have been secured in the colleges, and a greatly improved medical training is being furnished. Finally, and most important, the public is being supplied with much better-trained physicians.

VENEREAL DISEASES IN THE ARMY

The report of the Surgeon-General of the Army for the fiscal year ending June 30, 1912, gives figures for the incidence of venereal diseases in the Army for the calendar year 1911 which on first view seem discouraging. In both the Army and Navy for several years the use of prophylactic measures against venereal infection among the men has been encouraged or even made compulsory, as far as possible, in certain instances, and considerable improvement was hoped for from the adoption of these measures. The report shows that as in previous years the highest admission rate was for venereal diseases, the figures being 163.85 per thousand for 1911 as against 155.51 for 1910. Some improvement is seen, however, in the fact that the highest disability or noneffective rate was 8.82 for 1911 as against 10.14 for 1910. Further analysis of the figures also lends additional encouragement in regard to these diseases. The rate for gonorrhea was 94.52 per thousand in 1911 as compared with 102.44 for 1910, or a decrease of 7.92 per thousand. The rate for chancroids was 25.04 in 1911 as compared with 26.42 in 1910, or a decrease of 1.38 per thousand. The admission rate for syphilis in 1911 was 44.30 as compared with 26.65 for 1910. This on the surface shows an increase of 17.65 per thousand, or 66.2 per cent. for this disease. Discouraging as the latter figures appear to be, the report attempts to account for the increase on the ground that the application of the Wassermann reaction in a large number of men has revealed many cases which were not previously apparent. At some posts the Wassermann test has been applied to all the men, and thus latent cases, or cases in which the patient has had treatment which has suppressed outward signs of the disease without curing it, have been revealed. It will be seen, therefore, that while the figures without explanation do not seem to encourage the prophylactic measures employed, yet real progress has been made. It is probable also that the improvement will continue from year to year as the prophylactic measures are improved and their application made more universal. The campaign of education conducted among the recruits and kept up throughout the service of the men will also undoubtedly have some influence. A recent amendment to the statutes allowing the authorities to stop the pay of men while off duty on account of venereal diseases will also no doubt have the effect at least of inducing them to employ more thoroughly the prophylaxis provided for them. The progress made, while not great, is encouraging.

MEDICAL JOURNALS AND THE GREAT AMERICAN FRAUD

We have frequently referred to the inquiries that are received by this office from newspaper and magazine editors asking for information about products whose advertisements they have been offered. One of the greatest difficulties in the way of accomplishing the good that such inquiries otherwise might lead to is the lack of uniform action on the part of the medical press of the country. A specific instance may be given. A layman wrote to a high-class weekly magazine published in New York City protesting against an advertisement of Sanatogen which the magazine was carrying, and sending a reprint of THE JOURNAL'S article on this product. The advertising manager of the magazine in question wrote back that he had seen THE JOURNAL'S article but had sought further information regarding the preparation from the editor of a medical journal in his city. This medical editor recommended that the magazine accept the Sanatogen advertisement, so the advertising manager said, and in view of this, the manager suggested that possibly the article published by the American Medical Association in its journal was inspired by some "personal prejudice." Giving due weight to the probability that the advertising manager went for his information to a source that he knew would be favorable to the acceptance of the advertisement, the fact remains that it is a disgraceful state of affairs when editors of medical journals will give vicious advice in matters on which they are supposedly competent to pass. The probability is, of course, that the medical journal whose editor was questioned contained the self-same advertisement that the lay magazine was carrying. And the advertising manager of the magazine was willing to accept — because such information coincided with his wishes — information that on its face must be biased, and rejected advice — that did not meet his approval — because of a purely supposititious "personal prejudice." It is probably asking too much to expect advertising managers not to go to sources that are likely to be favorable for information about products whose advertisements are offered to them. But we have a right to expect that physicians, editors of medical journals, should no longer be *particeps criminis* in the furtherance of the great American fraud. If our strictures on Sanatogen are unfair, if the Council on Pharmacy and Chemistry rejected the

product in mere pique, if the opinions of such men as Billings, Cabot, Hektoen and Lusk are to be brushed aside as "personal prejudice," if this mixture of cottage cheese and glycerophosphates really is the marvelous product which its exploiters claim — then indeed not only have the editors of medical journals a right to praise it, but it is also their duty to proclaim these wonders in their editorial pages. If, on the other hand, this much-vaunted preparation is a very ordinary mixture sold at an extraordinary price, if indigent consumptives and others are being inveigled into spending dollars for a preparation whose food value could be duplicated for a few cents — then in the name of humanity and common decency let the editors of medical journals proclaim these facts, and not let their scientific judgment be blinded by the glitter of advertising contracts. The medical journals, published in New York City, that carry the Sanatogen advertisement are:

Medical Record	*New York Medical Journal*
American Medicine	*Medical Review of Reviews*
American Practitioner	*Critic and Guide*

MEDICAL COLLEGES MERGE

As noted in our news columns in this issue, word has been received regarding mergers of medical colleges at Richmond, Va., and at Memphis, Tenn. In the former city definite action has been taken merging the University College of Medicine with the Medical College of Virginia, the new school to bear the name of the latter institution. From Memphis it is reported that by an agreement the Memphis Hospital Medical College will be merged with the Medical Department of the University of Tennessee at the close of the present session, the new school having the latter name. The merger of the medical schools of these two cities is bound to result, in each instance, in the development of a stronger and better-equipped medical school. Hereafter the splendid clinical facilities of each of these cities can be systematically utilized by the one school while heretofore they were divided between the two. In each of these cities hereafter a united medical profession can work for the welfare of the one medical school, whereas, heretofore, there has been more or less rivalry between the two institutions and their supporters. Hereafter there can and should be a united effort to secure financial assistance from the cities in which these schools are located for the one institution which will doubtless deserve such aid. For the new schools it is to be hoped that the same local support both financially and otherwise will be secured from the people as at Louisville, Cincinnati, Indianapolis and other places where two or more schools have merged into one. Close contractual relations should be secured in each place from the city authorities, giving the new medical schools larger opportunities in the municipal hospitals and more control over the material. This will enable each school not only to perform better its functions of training physicians and of adding its quota to the world's knowledge of medicine, but also to render a better service to the community by furnishing the best possible care for the sick poor.

Medical News

ALABAMA

New Hospital Ready.—The management of the new Bessemer Hospital announces that it will be ready to receive patients this month.

Professional Tax Raised.—The special tax of the medical, legal and dental professions was raised at a recent meeting of the Florence city council from $18 to $25, despite the protest of representatives from the various professions.

Personal.—Dr. R. F. Lovelady has been elected president and Dr. E. P. Hogan secretary of the board of control of Hillman Hospital, Birmingham.——Dr. L. W. Grove, Mobile, has been appointed a member of the medical staff of Bryce Hospital, Tuscaloosa.——Drs. S. P. Hand and E. B. Bailey have opened an infirmary at Demopolis in the residence of the late Dr. Goodloe.

ARKANSAS

New Sanatorium at Hot Springs.—The contract for the construction of the new Leo W. Levy Memorial Sanatorium to be erected at Hot Springs at a cost of $200,000, is to be let at once by the Independent Order of B'Nai B'Rith.

Personal.—Dr. W. A. Claxton, city bacteriologist of Fort Smith, has resigned. He has been appointed assistant bacteriologist of Florida with headquarters at Jacksonville.——Dr. A. T. Beller, Ashdown, was operated on in a sanatorium at Texarkana, December 6.

District Rule Urged for Hot Springs.—Medical Director Harry M. Hallock, M. C., U. S. Army, in charge of the Hot Springs Reservation, in his annual report to the Secretary of the Interior, advocates a form of government for the Hot Springs Reservation similar to that of the District of Columbia. He also urges stronger measures for the control of physicians and condemns the "drumming" practice.

Committee Appointed to Draft State Health Bill.—Dr. Gaston A. Hebert, Hot Springs, president of the Arkansas State Medical Society, has appointed a committee composed of Drs. Morgan Smith, Little Rock; W. H. Barry, Hot Springs; R. C. Dorr, Batesville; J. H. Weaver, Hope; J. M. McBee, Earl, and S. A. Southall, Lonoke, to draft a state board of health bill to be presented to the next legislature.

CONNECTICUT

Social Hygienists Meet.—The Connecticut Society of Social Hygiene held its second annual meeting in Hartford, recently, under the presidency of Dr. Phineas H. Ingalls. Dr. William H. Carmalt, New Haven, was elected president and Dr. Thomas N. Hepburn, Hartford, secretary. Drs. Carmalt and Hepburn were also made members of the social evil committee and Dr. Oliver C. Smith, Hartford, chairman of the treatment committee.

Staff Selected.—The corporators of the New Britain General Hospital have selected the following staff: attending staff, Drs. R. M. Clark, Ernst T. Fromen, William W. Brackett, John L. Kelly, Carl J. Hart, Henry T. Bray, Waterman Lyon, John Purney, Frederick Peck, George W. Dunn and M. Volkenheim, New Britain, A. R. Couch, Hartford, George P. Dunham, Berlin, and E. Parker Sanborn, Bristol; ophthalmic and oral surgeon, Dr. Joseph H. Potts; radiographer, Dr. Clifton M. Cooley; pathologist and bacteriologist, Dr. Catherine H. Travis; consulting staff, Drs. George P. Cooley, Kenneth E. Kellogg, E. P. Swasey and Elmer Styles, New Britain, A. S. Brackett, Bristol, J. N. Bull and C. W. Moody, Plainfield, R. M. Griswold, Kensington, Charles R. Upson, Bristol, and Oliver C. Smith, Edward B. Hooker, E. J. McKnight and G. Perry Eldridge, Hartford.

FLORIDA

Hospital Day at Fair.—Thanksgiving Day was Hospital Day at the fair which was held at Ocala for the benefit of the new Marion County Hospital now under course of construction. The proceeds of the fair are to be given to the charity ward of the institution.

Pensacola Physicians Must Pay License.—Judge Wolfe of the circuit court, in the case brought by the physicians of Pensacola regarding the legality of the recent license ordinance under which physicians were each assessed $10, has decided against the physicians.

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Personal.—Dr. Stanley Erwin, Jacksonville, has been appointed physician of Duval County.——Dr. M. B. Herlong has been appointed city physician of Jacksonville, vice Dr. Gaston Day, resigned.——Dr. Howard S. Holloway, Jacksonville, has been appointed pathologist to the Florida Hospital for the Insane, Chattahoochee.

ILLINOIS

Bill for Inebriate Hospital.—A bill providing for the establishment in Illinois of a hospital and industrial colonies for the care and cure of inebriates and drug addicts is to be presented at the next session of the state legislature by Senator Edmond Beall. The bill provides for the appropriation of $250,000 for the purchase of a hospital site and buildings. Records are to be kept confidential and judges will have the power of committing inebriates to the state hospital instead of sending them to jail.

State Board Election.—At the annual meeting of the Illinois State Board of Health at Springfield, January 10, Dr. George W. Webster, Chicago, was reelected president, and Dr. James A. Egan, Springfield, was reelected secretary. The board decided to ask for legislation providing an appropriation for free typhoid vaccination, a state colony for epileptics and an appropriation to establish methods of preventing ophthalmia neonatorum.——The Master Plumbers' Association of Illinois has asked the governor-elect to appoint a master plumber, or a sanitary engineer as a member of the State Board of Health.

Certificate Revoked.—The State Board of Health, at its meeting, December 5, revoked the certificate to practice medicine of Dr. Seth Marion Wells, who claimed to be a graduate of University Medical College of Kansas City, Mo., in 1903 and was licensed in Illinois in 1905 on reciprocity with Iowa, in which state he had obtained his original license. The charges preferred against Wells were that his license to practice in Illinois was fraudulently obtained in that, at the time, he was a fugitive from justice from the state of Utah; that he had pleaded guilty to unprofessional and dishonorable conduct in Utah and had had his license revoked for that offense; that the certificate of good moral character claimed to have been given him by Dr. Gilman W. Petit was a forgery and not given by the said Petit, and furthermore that his affidavit that he was a graduate of the University Medical College of Kansas City, Mo., was a forgery, as he had not attended the college and had not been granted a diploma.

Personal.—Dr. M. P. Parrish, Decatur, has been elected chief surgeon of the Wabash Employees' Hospital Association, vice Dr. H. W. Morehouse, deceased.——Dr. R. S. Denny, Aurora, who has been seriously ill, is reported to be improving and will go to Florida to recuperate.——Dr. S. Horwitz, city physician of Peoria, who has been ill with influenza, is reported convalescent.——Dr. and Mrs. J. S. Watson, Aurora, have started on a trip to Honolulu.——Drs. A. G. Wittman, W. R. Tutt and Oliver F. Hughes have been promoted to be physicians at the Elgin State Hospital.——Dr. R. F. Hays, Freeport, fell down stairs, December 24, fracturing his left leg at the knee.——Dr. Harry L. Howell, Bloomington, who was operated on for appendicitis early in December, is convalescent.——Dr. George C. Tallerday, Belvidere, has been commissioned a member of the State Board of Equalization.——Dr. H. M. Van Hook, Mount Pulaski, while getting out of his buggy fell, injuring his left patella.——Dr. Robert H. Rea has been appointed acting superintendent of the Chicago State Hospital, Dunning, vice Dr. Fred B. Clark, resigned.——Dr. G. S. Culver, Sandwich, caught his hand in the gear of his automobile, January 2, necessitating the amputation of parts of two fingers.

Chicago

Banquet to Ex-Presidents.—The Chicago Medical Society announces a banquet to ex-presidents at the Sherman House, February 12, at 7:30 p. m. Ladies are cordially invited.

Illinois Training School Retains County Work.—The contract for nursing at the Cook County Hospital has been awarded to the Illinois Training School for Nurses for $164,000. The school agrees to furnish three hundred nurses for the hospital.

Personal.—Dr. Frank Billings has started on a trip to the Canal Zone.——Dr. A. W. Calvert, formerly assistant medical director of the Ottawa Tent Colony, has been appointed a member of the staff of the Arkansas Tuberculosis Sanatorium, Boonville.——Dr. I. D. Rawlings, head of the contagious disease division of the Bureau of Medical Inspection of the Health Department, is ill with typhoid in St. Luke's Hospital.

Asks Appropriation to Fight Epidemics.—Fearing that scarlet fever and diphtheria, which are now prevalent in the city, will increase beyond the power of the health authorities to control, Dr. Willis O. Nance, alderman and chairman of the council health committee, has asked for an emergency appropriation of $50,000 to provide hospital facilities for communicable diseases. There are at present said to be 1,440 active cases of scarlet fever and 694 active cases of diphtheria in the city.

Urge State Medical School.—The Alumni of the University of Illinois and the College of Physicians and Surgeons, together with a special committee from the Illinois State Medical Society, are urging on Governor-Elect Dunne and the legislature, a plan whereby the university may absorb the medical school. The alumni of the professional school have offered to purchase all outstanding stock and to transfer it to the university on condition that the school become an integral part of the department of public education. The university trustees have signified their approval, and all that remains is for the legislature to agree to the plan, thereby assuming liability by the state for the bonded and floating indebtedness amounting to $265,000.

INDIANA

New Officers.—Indianapolis Medical Society, January 7: president, Dr. Charles E. Ferguson.——Madison County Medical Society: president, Dr. M. A. Austin, Anderson; secretary, Dr. Etta Charles, Summitville.

Personal.—Dr. T. Victor Keene, Indianapolis, has been commissioned first lieutenant, M. C., N. G. Ind.——Ralph Chappell and Frank T. Dowd, Indianapolis, have been appointed deputy coroners.——Dr. K. R. Ruddell has been appointed anesthetist and pathologist of the new St. Vincent's Hospital.

Appropriations Asked by State School.—The report of the trustees of the Indiana University asks for appropriations by the legislature of $50,000 for a site for the Robert W. Long Hospital, of $25,000 a year for the support of the medical school and of $100,000 a year for the Robert W. Long Hospital.

MARYLAND

Personal.—Dr. Alexander L. Hodgson, Pearson, is spending the winter in Baltimore.

Maryland Organizes Against Tuberculosis.—Governor Goldsboro entertained Drs. Lewellys S. Barker, William S. Thayer and C. Hampson Jones of Baltimore, at dinner January 10. These gentlemen later addressed a meeting of the house of delegates at the State House, in the interest of the permanent organization of a local branch of the Society for the Prevention and Relief of Tuberculosis.

Baltimore

Tribute to Dr. Bosley.—Out of respect to the memory of late Health Commissioner Bosley, the Health Department was closed January 6, and employees of the department attended the funeral in a body. Resolutions regarding the death of Dr. Bosley were unanimously adopted by the city council, which, immediately after, as a mark of respect, adjourned.

Personal.—Dr. Benjamin B. Turner has been appointed assistant in pharmacology and Dr. Caroline B. Towles assistant in pediatrics, in Johns Hopkins Medical School.——Dr. E. M. Duncan has been elected president of the Govans Improvement and Protective Association.——Dr. Horace W. Nicholson is ill in Mercy Hospital.——Dr. George C. Wegefarth, who was operated on for appendicitis at the Church Home and Infirmary, December 12, is making satisfactory progress.

NEW YORK

Society to Aid Cripples.—Some of the residents of Westchester County and New York have organized the Cripples Welfare Society of New York and Westchester and the incorporation of the society has been approved. The object of this organization is to aid cripples and to reduce mendicancy, vagrancy and pauperism. The society proposes to provide artificial limbs, to procure employment for cripples and also to elevate their moral condition.

Medical Examination of Applicants for Marriage License.—There is a bill before the legislature providing for a medical examination of both parties to a marriage contract before the issuance of a license, making it a misdemeanor for the contracting parties to procure a license by fraud, for a doctor to issue a false certificate and for a minister to solemnize a marriage, knowing that the provisions of the bill have not been complied with. The bill has the endorsement of the New York County Medical Society.

County Tuberculous Hospitals.—The Suffolk County Board of Supervisors at a special meeting, December 3, voted to purchase as a site for the proposed county tuberculosis hospital, forty-three acres of land, seven miles north of Patchogue and between that place and Port Jefferson, at an expense of $4,000. Suffolk is the twenty-seventh county in this state to decide to provide hospital care and treatment for its sufferers from tuberculosis.——The Board of Supervisors of Herkimer County voted to establish a county hospital for the care and treatment of persons suffering from tuberculosis. This is the twenty-eighth county to make provision.——Meany Sanatorium, the new Tompkins County institution at Taughannock Falls was opened to receive patients, January 9. Dr. I. W. Brewer is in charge of the institution.

Commission to Study Health Conditions.—Governor Sulzer has announced the appointment of a commission of eight persons to make an investigation of health conditions in this state. The members of the commission are: Dr. Hermann M. Biggs, New York City, chairman; Homer Folks of Yonkers, secretary; John Kingsbury of Yonkers, assistant secretary; Dr. Edward R. Baldwin, Saranac Lake; Ansley Wilcox, Buffalo; Miss Adelaide Nutting, Dr. John C. Otis, Poughkeepsie, and Dr. W. E. Milbank, Albany. Governor Sulzer believes that the state should be much healthier than it is. During the year 1912 there were 145,538 deaths. Of these there were due to pulmonary tuberculosis, 14,179; other forms of tuberculosis, 2,339; typhoid fever, 1,310; measles, 977; whooping-cough, 816; diphtheria, 1,921; scarlet fever, 1,147; blood diseases, 629; intestinal troubles and enteritis in patients under two years of age, 7,299. These affections were partly if not largely preventable. "If they are preventable, why are they not prevented?" This is one of the questions into which the commission is to inquire. The commission is also to study the health laws of the state and to make suggestions for their revision and also to make suggestions as to the appointment of a new health officer for the state, as the term of the present incumbent expired on Jan. 1, 1913.

Personal.—Dr. O. O. Stowell has been reelected president of the Department of Health of Watertown, for the seventh term.——Dr. E. S. Willard, for seventeen years health officer of Watertown, was reelected at the meeting of the Board of Health, January 6.——Dr. L. H. Snow, Jamestown, while driving his automobile in a snowstorm, January 5, was run into by a street car and sustained painful cuts and bruises of the face.——Dr. A. D. Carpenter has been reelected president of the Buffalo Civil Service Commission.——Dr. Douglass H. Smith, Bath, has been appointed local surgeon for the Erie Railway and the Lake Keuka Navigation Company.——Dr. Harry C. Buell, Canandaigua, fractured his right arm while cranking his automobile, December 31.——Dr. Joseph C. O'Gorman has been appointed medical school inspector of Buffalo.——Dr. Harry D. White, Rome, was thrown from his sleigh while returning from a professional call, December 30, and fractured his right leg near the ankle.——Dr. F. J. Baker, Lockport, was thrown against the steering wheel of his automobile in a collision with another machine, December 15, and painfully injured.——Dr. Lucia E. Heaton, Canton, has been elected secretary of the St. Lawrence County Tuberculosis Committee.——Dr. George H. Torney, Jr., first assistant at the Utica State Hospital, has resigned to take a similar position at Bournewood Hospital, Brookline, Mass.——Dr. Earl G. Danser, Buffalo, medical examiner for Erie County, while trying to avoid a collision between his automobile and a buggy in the town of Clarence, ran into a shed, fracturing his right arm at the wrist.

New Officers.—Erie County Medical Society at Buffalo, December 16: president, Dr. J. F. Whitwell; secretary, Dr. Franklin C. Gram, both of Buffalo.——Schoharie County Medical Society at Richmondville, December 16: president, Dr. Lyman Driesbach, Middleburgh; secretary, Dr. Herbert Odell, Sharon Springs.——Montgomery County Medical Society at Fonda, December 11: president, Dr. E. C. LaPorte; secretary, Dr. William R. Pierce (reelected), both of Amsterdam.——Onandaga County Medical Society at Syracuse, December 10: president, Dr. Edward B. Kaple, Elbridge; secretary, Dr. H. B. Doust, Syracuse (reelected).——Schenectady County Medical Association at Mohawk Golf Club, December 10: president, Dr. F. C. Reed; secretary, Dr. Harvey P. Groesbeck, both of Schenectady.——Chautauqua County Medical Society at Jamestown, December 10: president, Dr. N. G. Richmond, Fredonia; secretary-treasurer, Dr. J. W. Morris, Jamestown.——Rensselaer County Medical Society at Troy, December 10: president, Dr. James H. Lyons; secretary, Dr. A. J. Hambrook, both of Troy.——Otsego County Medical Society at Oneonta, December 10: president, Dr. W. S. Cooke, Otsego; secretary, Dr. M. Latcher, Oneonta.——Lewis County Medical Association at Lowville, December 11: president, Dr. Ira D. Spencer, Croghan; secretary, Dr. E. N. K. Mears, Lowville.——Franklin County Medical Society at Malone, December 10: president, Dr. Frank F. Finney, Burke; secretary-treasurer, Dr. George M. Abbott, Saranac Lake.——Wayne County Medical Society at Lyons, December 10: president, Dr. Alexander Walker, Macedon; secretary-treasurer, Dr. M. A. Veeder, Lyons.

New York City

Lake Addresses Academy.—Dr. Richard Lake, London, delivered an address before the New York Academy of Medicine, December 13 on "Vertigo, a Clinical Therapeutical Study."

Bellevue Hospital Library.—It is announced that the library in connection with the pathologic department of the new Bellevue Hospital will be open for the use of all practicing physicians.

Ambulance Service Suspended.—The Presbyterian Hospital has announced that it will discontinue its ambulance service because it is not now getting enough accident cases through police calls to warrant its maintenance.

Typhoid Mary Loses Case.—Mary Mullen, the typhoid carrier, has been notified that she has no cause of action against the Board of Health of New York City, which caused her to be detained for three years in North Brother Island. It is held that the Board of Health acted entirely within the powers conferred on it by the city charter.

Cancer Hospital Needs Aid.—The New York Skin and Cancer Hospital states that the news reports that it had benefited by the will of Miss Cornelia Storrs to the extent of $2,000,000 were greatly exaggerated. The institution has not yet benefited at all by the will of Miss Storrs and at the most will not receive more than $50,000 from the estate.

New Officers.—New York Medicolegal Society, December 20: president, Dr. Thomas D. Crothers, Hartford, Conn.; secretary, Clark Bell, New York City, both reelected.——Medical Society of the County of Kings, ninety-second annual meeting at Brooklyn, December 17: president, Dr. James M. Winfield; secretary, Dr. Claude G. Crane.——Physicians League of Brooklyn: president, Dr. Thomas Dixon; secretary, Dr. Charles Dumey.

Progress in Caring for the Blind.—The New York Association for the Blind held its annual meeting on December 17. Dr. John H. Finley reported that the last year had witnessed great strides in the prevention of blindness and methods of caring for the blind. The opening of the new summer home at Cornwall, N. Y., was the greatest single accomplishment of the association. This association had during the year fifteen men to tune pianos in the public schools; this furnished an illustration of the effort made to teach these unfortunates some occupation and to make them self-supporting.

Neglect to Report Births.—The birth records of the past year have fallen below the returns of the previous year. The Health Commissioner assumes that this discrepancy is due to negligence on the part of physicians in making reports and he has sent out a letter to every physician in the city warning him against making such omissions in the future and threatening with prosecution every violation of the law on this subject. The Commissioner of Health has the power to excuse a person who fails to comply with the provision of the law compelling the filing of a certificate of birth within ten days, and of 312 cases brought to the notice of the Commissioner six have been excused on the ground of mental and physical disability at the time when the certificates should have been filed.

Personal.—Dr. C. B. Meding arrived in San Francisco, December 30, after a visit of several months in India.——Dr. Lewis S. Pilcher was the guest of honor at the Hamilton Club, December 11, when the medical men of the Methodist Episcopal Hospital, which was organized by Dr. Pilcher, celebrated the twenty-fifth anniversary of its founding. Only members of the Society of Ex-Interns of the Hospital were present. A handsome loving-cup, suitably engraved, was presented to Dr. Pilcher, the society acknowledging affectionately its obligation for his services as a teacher, for his accuracy as a surgeon and for his example as a man.——Dr. Charles Milton Ford has been appointed consulting surgeon to the New York City Children's Hospital and Schools, Randall's Island.——Dr. Alexis Carrel returned from Europe, January 11.

New Hospital for the Crippled Opened.—The new hospital of the New York Society for the Relief of the Ruptured and Crippled in East Forty-Second Street near Second Avenue was formally opened on December 16 though the patients from the

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old hospital building had been moved in a week before. Addresses were made by William Church Osborne, president of the society, and by Dr. Virgil H. Gibney, surgeon-in-chief. The annual report of the hospital shows that since it was founded in 1863, 392,405 patients have been treated. The unusual feature of this hospital is the amount of outdoor space that is provided; practically every room and ward where patients are cared for has an open air playground adjoining it, and a large part of the sixth floor is arranged for outdoor treatment and recreation. The society is now working for a convalescent home in the country. Besides the housewarming, the occasion was a celebration of the fiftieth year of the society. There are accommodations in the hospital for 225 children, but in times of stress the dining-room can be converted into a ward and in this way 350 may be accommodated.

PENNSYLVANIA

Patients Admitted to Cresson.—The first two patients were admitted to the State Tuberculosis Sanatorium, Cresson, January 2, transferred from Mount Alto. The resident physicians of the institution are Drs. Ellenberger, Altoona, and Gross, Philadelphia.

Hospital News.—Directors of the Taylor Hospital, Scranton, are discussing the advisability of changing the name of the institution to the Edward James Memorial Hospital.——The new wing of the Spangler Hospital which has been erected at a cost of $6,000 was opened New Year's Day.

New Housing Code.—A housing code is being drawn up by a committee appointed at the recent national housing conference, to be presented at the coming session of the legislature to do away with evil housing conditions and to establish adequate supervision over tenements. It is intended to grant wider powers to the boards of health to establish sanitary inspection, to condemn insanitary houses and to prevent their occupancy. One clause provides that no dwelling shall be rerented without fumigation.

New Officers.—Delaware County Medical Society at Chester: president, Dr. Frederick H. Evans; secretary, Dr. C. Irvin Stiteler, both of Chester.——York County Medical Society, thirty-ninth annual meeting, at York, January 2: president, Dr. L. H. Fackler; secretary, Dr. J. H. Comroe, both of York.——Northumberland County Medical Society at Sunbury, January 2: president, Dr. M. J. Flanagan, Shamokin.——Berks County Medical Society at Reading, December 10: president, Dr. Ira G. Shoemaker; secretary, Dr. H. Philemon Brunner, both of Reading.——Columbia County Medical Society at Bloomsburg, December 12: president, Dr. Heister V. Hower, Mifflinville; secretary-treasurer, Dr. Luther B. Kline, Catawissa.

Personal.—Dr. J. H. Wilson, California, has been appointed physician of the Consolidated Coal and Coke Company at Red Top, vice Dr. W. B. Stevenson, deceased.——Dr. James E. Dickinson has resigned as president of the Harrisburg Board of Health.——Dr. H. B. Brunner, Somerset, has been elected resident physician of the Somerset County Hospital.——Dr. J. V. Albert, Pine Grove, was painfully injured in a fall on a pavement, recently.——Dr. E. S. Hayes, Wyoming, sustained painful injuries in a collision with a car in Wilkes-Barre, December 20.——Dr. W. H. Minnich, Dallastown, is reported to be ill with pleurisy.——Dr. J. H. Yeagly, York, who has been ill with pneumonia, is reported to be improving.——Dr. Philip Y. Eisenberg has been elected president of the Norristown Charity Hospital Association.

Typhoid and Measles.—Inspector Moses of the State Health Department, has been sent to Bethlehem to investigate the water supply as well as the milk, because of the outbreak of typhoid in that city, twenty cases having been reported up to January 9.——More deaths occurred in this state from measles during the past year than from scarlet fever and Commissioner of Health, Dr. Samuel G. Dixon, attributes the large mortality from this disease to the ignorance of parents, who look on measles as inevitable. He says, "Two factors are responsible for the epidemic of measles. They are the laxity of boards of health in the smaller communities in enforcing the law requiring quarantining and exclusion from school when cases of measles occur and the failure of parents to realize that this is a dangerous disease which demands the care of a physician. At Newport, Perry County, in October, there was an outbreak of measles. It was discovered that not only many children had it, who were entirely without medical attendance, but it was asserted that the secretary of the board of health of Newport had measles in his own home and failed to placard it as the law requires.

Philadelphia

New Officers.—Philadelphia College of Physicians: president, Dr. James C. Wilson; vice-president, Dr. Richard H. Harte.

Measles Prevalent.—There was a large increase in the number of cases of measles during the week ending January 11, 321 being reported, as compared with 245 recorded in the previous week. Of these new cases nearly one-half are reported from four up-town wards: sixty-six from the Twenty-Second, fifty-two from the Twenty-Eighth; twenty-two from the Thirty-Eighth and nineteen from the Forty-Second.

Baby-Saving Show Opened.—The first neighborhood exhibit of the baby-saving show was opened January 8, in the Catto School. Dr. Joseph S. Neff, Director of Health and Charities, the principal speaker, spoke on "What Every Citizen of Philadelphia Can Do to Help Save the Babies." Dr. Henry D. Jump is chairman of the child hygiene committee. Talks will be given in different languages in the foreign sections of the city, illustrated by lantern slides.

Hospital Report.—The thirty-eighth annual report of the University of Pennsylvania Hospital covers only ten months. During this time, 4,421 patients were admitted to the institution with a total of 4,638 under treatment. Of these, 4,105 were discharged, 249 died and 224 remained in the hospital. There are 133 physicians on the visiting staff and the dispensary service and 23 resident physicians. During the ten months covered by the report, the total receipts of the institution were $232,386.97 and the total expenditures $223,566.25.

Highway Bureau Experiment Successful.—In an effort to obtain cleaner streets, the Highway Bureau placed municipal waste-paper cans in congested districts, and the experiment was successful enough to warrant carrying out the campaign on a larger scale. Bids for several thousands of these cans will be opened January 20. They will be placed on the curbs in the business districts of the city and in front of every public, parochial and other schools. The contents of the cans will be collected daily. The bureau has an appropriation of $4,252 for the work.

TENNESSEE

Memphis Colleges Merge.—Word has just been received that the Memphis Hospital Medical College and the University of Tennessee Medical Department, both located at Memphis, have been merged and will continue under the latter name. This leaves but one medical school for white students in Memphis.

Children's Clinic Opens.—A child's free clinic at Knoxville was opened to the public January 2. Dr. W. D. Richmond is in charge during January. There are six rooms at the clinic, which is located on the second floor of an old school building, namely: two consultation rooms, a waiting room, rest room, bathroom and sterilizing room. A nurse is on duty at the clinic six days in the week from 10 a. m. to 5 p. m.

New Officers.—Rutherford County Medical Society at Murfreesboro: president, Dr. B. N. White; secretary-treasurer, Dr. Rufus Pitts, both of Murfreesboro.——Giles County Medical Society at Pulaski: president, Dr. R. E. Aymett, Pisgah; secretary, Dr. J. A. LaRue, Pulaski.——Knoxville Gynecological and Surgical Society organized December 18 with ten charter members. At the meeting January 2, Dr. B. B. Cates was elected president and Dr P. Herbert Acuff, secretary-treasurer.——Memphis and Shelby County Medical Society at Memphis, December 17: president, Dr. William Krauss; secretary-treasurer, Dr. J. J. Cullings.——Crockett County Medical Association at Alamo, December 2: president, Dr. J. H. Harris, Bells; secretary-treasurer, Dr. E. S. Hopper, Alamo.——Madison County Medical Society at Jackson: president, Dr. J. A. Crook; secretary-treasurer, Dr. J. W. MacClaren.——Chattanooga Academy of Medicine, December 6: president, Dr. H. P. Larimore; secretary-treasurer, Dr. C. R. Wylie.

VIRGINIA

New Officers.—Lynchburg Medical Association, January 3: president, Dr. George P. Hamner; secretary-treasurer, Dr. J. W. Walters.——Shenandoah County Medical Society at Woodstock, December 12: president, Dr. S. J. Hoffman, Woodstock; secretary, Dr. W. F. Driver, New Market (reelected).——Richmond Academy of Medicine and Surgery, December 10: president, Dr. J. Shelton Horsley; secretary, Dr. M. W. Peyser, reelected after a twenty-year term.

Medical College Merger.—The last obstacle to the merger of the University College of Medicine and Medical College of Virginia has been removed and the union of the two institutions will in all probability be legally consummated within

a very few days. The new institution will appear under the name of the Medical College of Virginia and will embrace the plants and equipment of the two merging colleges, the Memorial Hospital and the Virginia Hospital. It will be governed by a board of visitors, consisting of nineteen members, to be appointed by the governor, and the faculty will be composed of members of the faculties of the two institutions and will select its own dean.

WISCONSIN

Large Increase in Health Appropriation Asked.—Health Commissioner Kraft of Milwaukee has asked for an appropriation of $200,147.50 for the health department for 1913. During 1912, $150,000 was appropriated.

Personal.—Dr. W. H. Titus is said to be seriously ill at his home in Oshkosh.——Dr. Dennis J. Hayes, Milwaukee, while stepping from his automobile, December 25, was struck by an automobile, fracturing his left leg ——Dr. J. B. Atwood, Oconto, has disposed of his practice.——Dr. H. F. Oshwald has returned to Oconto Falls and resumed practice.

Four-Year Medical Course.—The plans of the alumni and the medical and art and science departments of the University of Wisconsin are to have the university authorities establish the last two years of the medical school course in Milwaukee, extending the course from two years to a complete four-year course, and thus utilizing the clinical facilities of Milwaukee.

Antituberculosis Sanatoriums Located.—The tuberculosis sanatorium for Kenosha County, for which $20,000 has been appropriated, will be located near Camp Lake in the town of Salem.——The tuberculosis sanatorium for Manitowoc County, which has been erected at a cost of $15,000 and is to be known as Maple Crest, was opened recently.——There is being constructed at Racine a tuberculosis sanatorium for Racine County, at a cost of $35,000. The institution will be located on a 10-acre tract, 3 miles from Racine, near the county insane hospital.

New Officers.—Green County Medical Society at Monroe, January 3: president, Dr. L. A. Moore; secretary, Dr. S. R. Moyer, both of Monroe.——Rock County Medical Society at Beloit, December 31: president, Dr. Frank Van Kirk; secretary-treasurer, Dr. Frederick Sutherland, both of Janesville.——Ashland-Bayfield-Iron County Medical Society at Ashland, December 20: president, Dr. W. T. Rinehart; secretary, Dr. C. T. Smith, both of Ashland.——Portage County Medical Society at Stevens Point, December 23: president, Dr. A. E. MacMillan; secretary-treasurer, Dr. W. F. Cowan, both of Stevens Point.——Lancaster County Medical Society at Bloomington, December 12: president, Dr. J. C. Betz, Boscobel; secretary-treasurer, Dr. M. B. Glasier, Bloomington.——Marathon County Medical Society at Wausau, December 16: president, Dr. F. C. Nichols; secretary-treasurer, Dr. J. R. Bryant, both of Wausau.——Medical Society of Milwaukee County: president, Dr. C. H. Lemon; secretary, Dr. Daniel Hopkinson, both of Milwaukee.——Dane County Medical Society at Madison, December 10: president, Dr. C. A. Harper; secretary-treasurer, Dr. F. S. Meade.——Kenosha County Medical Society at Kenosha, December 6: president, Dr. William Pugh; secretary-treasurer, Dr. C. H. Gephart, both of Kenosha.——La Crosse County Medical Association at La Crosse: president, Dr. Oscar Houck; secretary-treasurer, Dr. George W. Lueck, both of La Crosse.——Douglas County Medical Association at Superior: president, Dr. R. K. Lohmiller; secretary-treasurer, Dr. William A. Zwickey, both of Superior.

WYOMING

Cheyenne Has Scarlet Fever.—On account of the prevalence of scarlet fever in Cheyenne, the holding of public entertainments has been prohibited. Children have also been forbidden to enter moving-picture shows or other public places. The schools will remain closed until it is considered safe to reopen.

Personal.—Dr. Horace P. Holmes, Sheridan, was stricken with cerebral hemorrhage, December 8, and is reported to be in a critical condition.——Dr. Whitlock and family, Evanston, have located in Kemerer.——Dr. John Delroy Shingle, Cheyenne, county physician of Laramie, who was operated on recently for appendicitis, is reported to have recovered.

GENERAL

Surgeon-General of the Army Reappointed.—The senate, January 11, confirmed the reappointment of Brigadier-General George H. Torney, M. C., U. S. Army, as surgeon-general.

Bacteriologists Hold Meeting.—The annual meeting of the Society of American Bacteriologists was held in New York City, December 31-January 2, and the following officers were elected: president, Prof. C. E. A. Winston, American Museum of Natural History, New York City; vice-president, Prof. Charles E. Marshall, Massachusetts Agricultural College, Amherst, and secretary-treasurer, Dr. A. Parker Hitchens, Glen Olden, Pa.

New Officers.—North Pacific Surgical Society, annual meeting in Vancouver, B. C.: Dr. Casper W. Sharples, Seattle, Wash., president; Dr. James B. Eagleson, Seattle, secretary-treasurer.——Sixteenth annual convention of Phi Chi Medical Fraternity, in Philadelphia, December 30-January 1: Dr. Archibald B. Elkin, Atlanta, Ga., grand presiding senior; Dr. Theodore B. Pearson, Wilmore, Ky., grand historian and editor-in-chief of the official organ.——Eighth annual meeting of Phi Delta Epsilon Fraternity, in Philadelphia, December 30-31: grand consul, Dr. Camille J. Stamm, Philadelphia; grand scribe, Dr. Louis L. Goldblatt, New York City.

The Mary Putnam Jacobi Fellowship.—The Woman's Medical Association of New York City offers a fellowship of $800 for graduate study. It is open to any woman graduate of medicine not on competitive examination, but on proof of ability and promise of success in the chosen line of work. Applications must be received by April 1, accompanied by testimonials as to good health, ability and character; details of educational qualifications; a statement of the work proposed while holding the fellowship; and examples, if any, of work, in the form of articles, or accounts of investigations carried out. The fellowship will be from Oct. 1, 1913, to Oct. 1, 1914. Two reports will be expected, one about the middle of the work and a detailed report on its completion. All applications should be sent to Dr. Emily Lewi, Chairman, Committee on Awards, 35 Mt. Morris Park West, New York.

Infectious Diseases.—The most serious situation with regard to meningitis is found in an area comprising eastern Arkansas, northern Louisiana, Mississippi, western Tennessee and southern Illinois. The state and local health officers are active in all of these sections and the situation will no doubt come rapidly under control. In some sections, particularly in Louisiana where perhaps an exaggerated state of public alarm exists in regard to the disease, the state health officer has been called on urgently to establish quarantine in various places. Some towns have quarantined against each other. This plan is discouraged by the state health officer who says that such quarantine is never effective and is, therefore, harmful rather than beneficial. Perhaps in some instances the reports of the prevalence of the disease are exaggerated. The health officer at Memphis has adopted the policy of requiring the examination of all persons from the districts in which meningitis is present but no public quarantine will be proclaimed. The meningitis situation at Midville, Ga., is improved. Cases are reported from Missouri and other states but nothing resembling an epidemic exists at any of those places.——A small-pox epidemic has broken out in La Crosse, Wis. The authorities have requested the discontinuance of public and social functions. Vaccination is being vigorously carried on. Some cases are reported from other places in Wisconsin.——Considerable small-pox exists in West Virginia as reported last week. An epidemic has broken out in the quarries at Martinsburg and a company of state militia stationed at Martinsburg has been called on to help to preserve prophylactic regulations.——Diphtheria is reported from Madison, Wis.; scarlet fever from Walsenburg, Colo., and measles at Gettysburg, Pa., 100 cases of the latter disease having occurred up to January 7.——Twenty cases of beriberi are reported from the Austin (Tex.) State Hospital.

Bequests and Donations.—The following bequests and donations have recently been announced:

Boston Lying-In Hospital, over $500,000, to accumulate for twenty-one years and to be called the Francis Amory of Milton Maternity Fund, by the will of Francis Amory.

Endowment fund of the Medical College of the University of Cincinnati, $50,000, to be known as the Julie Fries Levy Endowment, the income to be used to further and disseminate medical knowledge; donation by Harry M. Levy.

Manhattan Eye, Ear and Throat Hospital, a half interest in property at 118 East Fifty-First Street, New York, by the will of Dr. Frank J. Parker.

Nursery and Child's Hospital, Baltimore, $10,000, by the will of Dr. David H. Carroll.

Pittsburgh Tuberculosis Hospital, $5,000 from the College Club of Pittsburgh and $10,000 from an anonymous benefactor, for an annex.

Jewish Consumptives Relief Society, Denver, $2,000, to fit up a room to be dedicated to the testator, by the will of Simon U. Rosenthal, New Orleans.

A hospital and other charities at New London, Conn., $600,000, by the will of Sebastian D. Lawrence.

Evanston Contagious Disease Hospital, $10,000, by William Lision Brown.

Joseph E. Schoenberg Memorial Hospital, Denver, $25,000 to the endowment fund.

Missouri Baptist Sanitarium, St. Louis, $100,000, by Alanson D. Brown, subject to the raising of $50,000 additional by the church authorities.

St. Michael's Day Nursery and Hospital for Babies, Wilmington, Del., $10,000; Robert Packer Hospital, Sayre, Pa., real estate in the city; Episcopal and Rush Hospitals, Philadelphia, each $15,000, by the will of Mrs. Mary Packer Cummings.

Samaritan Hospital, Sioux City, Iowa, $1,000, from J. M. Field, Manchester, England, formerly of Sioux City.

Columbia University, $1,566,635, for a cancer research fund, by the will of George Crocker.

St. Vincent's Hospital and the Consumptives Home of St. Joseph, New York City, each $1,000; St. Rose's Cancer Hospital and Hospital in the Bronx for the Blind, each $500, by the will of Thomas Bardon.

Society for the Relief of the Ruptured and Crippled, New York City; Home for Incurables, Fordham, each $5,000, by the will of Elizabeth F. Noble.

St. Luke's Hospital, New York City, $75,000, to endow a bed in memory of Elizabeth C. Bacon, by the will of Francis E. Bacon.

Mount Sinai Hospital, New York City, $5,000, by the will of Nathan Straus.

Massachusetts General Hospital, for the support of the laboratory, $25,000, and Harvard Medical School, $50,000, the income only to be used, and $30,000 for the purpose of promoting out-of-door life for school children in the town of Canton, by the will of Dr. Arthur T. Cabot.

St. Luke's Hospital, Jacksonville, Fla., $10,000, by the will of Emma Drew.

Mercy Hospital, Kansas City, $5,000, for an endowment fund; donation by Charles W. Armour.

Charity Hospital and Touro Infirmary, New Orleans, each $20,000, by the will of Edward Rosenberg.

St. Louis Day and Night Camp for the Cure of Tuberculosis, $10,000; donation from Miss Helen Gould.

Associated Jewish Charities of Chicago, $50,000, by the will of Leon Mandel.

Pennsylvania Hospital, Home for Incurables and German Hospital, Philadelphia, each $5,000, by the will of Laura A. Pichou.

New York Society for the Ruptured and Crippled and Orthopedic Dispensary and Hospital, each $7,500, by the will of Mirian De Forest.

Stony Wold Sanatorium, $10,000, by the will of Melinda Hasbrouck.

FOREIGN

Cholera at Mecca.—The cable reports 1,714 deaths from cholera in the last four days among the pilgrims at Mecca.

Bequests for Science.—The will of Alfred Samson, who died recently at Brussels, provides for an endowment of $500,000 for the Prussian Academy of Sciences and $100,000 for the Bavarian Academy of Sciences, at Berlin and Munich. The endowments are stated to be for investigations which afford a prospect of raising the morality and well being of the individual and of social life, including the history and prehistory of ethics, and anthropologic, ethnologic, geographic, geologic and meteorologic influences as they have affected the mode of life, character and morals of man.

International Physiotherapy Congress.—The Fourth International Congress to discuss treatment of disease by seabathing, mineral baths, climate and other physical measures is to convene at Berlin, March 26 to 30, with Profs. His and Brieger acting as presidents. Electricity, radium and roentgenotherapy are to be treated by Oppenheim, Bickel and Levy Dorn, while the subject of mechanical devices, orthopedics, therapeutic exercises and massage will be introduced by Joachimsthal of Berlin. The leading addresses are to be by Oliver, G. Müller, Vaquez, and Wiede of Stockholm, the latter speaking on mechanotherapy. There will be an exhibition of devices, etc., for treatment by physical means. The American chairman of the permanent committee for the congress is Dr. G. Betton Massey, 903 Professional Building, Philadelphia, who will supply further information on demand.

Deaths in the Profession Abroad.—Besides the deaths mentioned by our correspondents, the profession has lost recently the following eminent men: E. Tavel, professor of surgery at the university of Berne, Switzerland, aged 54. He was at first incumbent of the chair of bacteriology and made several important contributions to this branch of science as well as to surgery.——U. Cardona of Madrid, founder of the *Revista de Medicina y Cirugia Practicas* and a leader in infant welfare work in Spain.——G. Tiling, professor of surgery at the university of St. Petersburg, and one of the leading surgeons of Russia, editor at one time of the *St. Petersburg. med. Wchnschr.* and contributor to other journals, aged 63.——L. Wille, formerly professor of psychiatry at Basel, aged 78.——J. Wising, formerly professor of nervous diseases at the university of Stockholm, the first chair of nervous diseases in Sweden, and for many years editor of *Hygiea*, aged 71.——D. O. V. Pettersson, professor of pediatrics at the university of Upsala, aged 68.——H. Maag, president of the Danish Medical Association and long chief of the Naestved Hospital, aged 59.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Jan. 4, 1913.

The National Insurance Act: The Crisis in the Profession

The crisis in the profession due to the national insurance act has at last arrived. As anticipated in my last letter the representative meeting of the British Medical Association has declined the final offer of the government and launched what may be called a declaration of war against the scheme. As befitted such a momentous occasion the debate was prolonged and animated. On the one side, it was maintained that if the profession held together it could win its terms, while if it did not it would be ruined. Many of the reasonable demands of the profession, such as payment for mileage, had not been met. No provision had been made for anesthetist's fee though the physician was bound to perform minor operations. He would be obliged either to administer the anesthetic in addition to performing the operation, which was dangerous, or pay the anesthetist out of his pocket. On the other hand, the danger of rejecting the act was emphasized by the other side. If the association was defeated those who accepted service would be much better off than at present, while those who resisted would lose. As to the unity of the profession, on which so much reliance was placed, there were 15,000 physicians (about half the total) who had never subscribed a cent to the defense funds (established to indemnify physicians who may lose by resigning lodge practice). At present, applications had been made to the association by physicians who wanted the guarantee made good to them. Was the association in a position to do this? At present there were certain areas of low-class practice in the country and no matter how bad were the terms offered by the government they were much superior to those under which physicians were working. These men were prepared to work the act because they obtained such an increase of pay that they could not afford to refuse the enhanced offer. In Birmingham, there were at least thirty men who had signed agreements with the government to work the act. By a majority of 176 divisions of the association to twenty-four, the final proposals of the government were rejected.

THE ASSOCIATION'S ALTERNATIVE SCHEME

Recognizing that some alternative to the government's scheme was necessary a resolution was passed by a very large majority advising that the profession treat insured persons on condition that they availed themselves of the right given in the act of "making their own arrangements;" that where a capitation system is adopted the basis of remuneration shall be a minimum of 82 per annum, inclusive of drugs; that where a system of payment by attendance is adopted such payment shall be on a scale of fees to be drawn up by the local medical committee of the association, subject to the approval of the council, the minimum fee per visit being 60 cents; that the general arrangements be made between the insured or their representatives and a committee of local physicians; that these arrangements be carried on until such time as the profession adopts some uniform scheme. For purposes of comparison it may be mentioned that the final capitation offer of the government is $1.50, exclusive of drugs, and that in country districts where the physician is allowed to dispense, if there is no pharmacist within a mile, the amount offered by the government, inclusive of drugs, exceeds by 12 cents the minimum suggested by the association. This new move is criticized by the physicians in favor of working the act as a violation of one of "the six points" originally demanded by the association—the non-administration of medical benefit by the representatives of friendly societies.

SERIOUS FISSION IN THE ASSOCIATION

As pointed out in previous letters to THE JOURNAL, in the opposition to the insurance act there have always been two parties in the association—a moderate and an extreme one, and several struggles have occurred between them in which the extreme party has been defeated. In the decision to reject the act the extreme party proved victorious. The result is that six members of the council of the association have resigned. The council is the administrative body of the association and consists of about sixty members. The resignations are the more serious as they include some of the leading and most active members of the association who have taken a great part in the struggle against the original proposals of the government. They are Dr. Maclean, recently chairman of the representative meetings; Dr. Shaw, chairman of the central

ethical committee; Dr. Buist, chairman of the journal committee; Dr. Grant Andrew, president-elect of the Glasgow and West of Scotland branch; Dr. Farquharson, member of the central ethical and public health committees, and Dr. Fleming, chairman of the medicopolitical committee. These members issued a statement to the press that they had resigned their places on the council because the association was committed to a policy which would be seriously detrimental to the present and future interests of the medical profession.

AFTER THE CRISIS: A DISUNITED PROFESSION

The fission described above continues to increase and the profession is divided into two hostile camps, denouncing one another with all the virulence of party politicians. The attempt of the British Medical Association to prevent the working of the medical benefit portion of the act seems to have failed and the rival scheme brought forward at the last moment has been vetoed by the government. The association seems to have relied too much on the 27,400 pledges not to work the act given at the beginning of the struggle. As the government made a much more favorable offer subsequently, many considered the pledges as applying only to the conditions first offered. Others considered the association's alternative scheme a violation of one of the "six points," as the association was exchanging friendly society for government control, a thing which absolved them from the pledge. The fact that at the divisional meetings of the association which decided not to work the act by a majority of about five to one, not more than half the members attended, has been suggested in my last letter as a reason for considering the opposition to the act not so strong as might have been supposed. As the fateful day, December 31, for accepting or refusing service drew near, it became plain that the number of those willing to serve was increasing. Up to the last, meetings convened by the British Medical Association were held and a strong attempt made to dissuade men from joining the panels. The view was emphasized that the pledge was binding and the breaking of it dishonorable. Most of the speaking and voting was in this direction, but it was evident that a "landslide" was in progress in the profession all the time. This consisted at first of a number of physicians who had long been in favor of the act on principle, but whose voices had been little heard at the meetings in which the "platform" was bitterly hostile to the act. Their numbers have day by day been reinforced by waverers of one kind and another, some of whom feared the loss that would be inflicted on them if they refused to work the act, and the government obtained others to do so. An attempt was made to reassure them that the act would prove unworkable and that the government in the end would have to come to the association's terms. Some who were scrupulous about the pledge asked to be released from it, but the reply was that this could be done only by the decision of the representative body of the association. In the meantime, the press of the two great political parties has endeavored to make as much capital as possible out of the situation. The Conservative organs backed the association and described the act as unworkable and an outrage on the profession; the Liberal organs described it as a great success and said that the physicians' opposition was due to political motives and was collapsing.

THE CHANCELLOR ON THE POSITION

Mr. Lloyd George, Chancellor of the Exchequer and the author of the act, has just given an address to the advisory committee (consisting of physicians and representatives of insured persons appointed to advise on various questions), which shows very clearly the position of the government. He asserted that the revised terms to the physicians were not only just but generous. The attitude of the medical profession was a tacit admission of this, for the controversy had shifted almost entirely from the question of remuneration to something which was called "lay control." No profession to his knowledge had ever objected to the administrative control of any lay body that was responsible for paying it. This applied to health officers and physicians in hospitals under municipal management. No one could accuse him of impatience. For twenty months he had negotiated and attended innumerable interviews, conferences and no end of deputations trying to effect a friendly arrangement. After all the pressure the British Medical Association had put on him to transfer administration from the approved societies to the local health committees and after he had persuaded the House of Commons to do it, they, at the last meeting, without consulting their own constituents and in defiance of their constitution, trampled on one of their cardinal points. He had now sufficient physicians to work the act for three-fourths of the insured population; 10,000 doctors had gone on the panels and more were rapidly coming in.

THE ALTERNATIVES IN AREAS IN WHICH HE COULD NOT FORM A PANEL

In areas in which the panel could not be completed there were three alternatives. If the panel was all but complete it could be closed and the physicians on it asked to engage a sufficient number of assistants or to take a sufficient number of partners so that the panel would become complete. Another method was to appoint new men on the panel who were willing to start in an area in which there were not a sufficient number of physicians willing to work. A third alternative was a salaried service, for which the physician would be paid $2,500 a year and allowed to take private practice. In Bradford the physicians refused to go on the panel, but when the local committee advertised for outside physicians at this salary, the number of applications was so great that it was realized that opposition would be suicidal, and the local physicians agreed to serve.

THE POSITION OF THE BRITISH MEDICAL ASSOCIATION

A statement of the present policy of the British Medical Association has been issued. The decision of the representative body to decline service is stated to have been no hurried action, but the result of eighteen months' deliberation and negotiations. Under the final regulations the local insurance committee, practically a working-class committee, only one-tenth of its members being representative of the medical profession, controls and makes all arrangements and hears all complaints. "No intellectual industry can escape injury when placed under the control of inferior intelligence." The report of the government on the present earnings of physicians shows that they receive $1 per annum for each of the population for 1.8 attendances, i. e., over 50 cents per attendance. The latest offer of the government would provide 17 cents per attendance. In a later manifesto the British Medical Association replies to the chancellor's address. It points out that the insured will not have "free choice of physician," as is stated to be provided in the act. They will have a choice of only those physicians on the panel. If the alternative scheme of the association had not been vetoed, it would be possible to give free choice, even in those districts in which the panel is incomplete and unsatisfactory. The idea of the association was to take advantage of a clause in the act by which the commissioners may allow an insured person "to make his own arrangements" for medical attendance with some physician who is not on the panel and receive in place of free medical attendance the capitation fee as a contribution to pay his physician. The association brought forward this scheme at the last moment. It embodied most of the points which they failed to obtain from the government under the act. The association offered to arrange with the friendly societies on this basis and on a capitation fee not very different from that of the government, but with payment for a number of extras not allowed by the government and with certain other conditions. The chancellor, however, regarded this as merely an expedient for destroying the whole machinery of the act and vetoed it. He said that it was almost a breach of faith to bring it forward, as he had agreed to insert the clause on the understanding that it was only for exceptional cases in which an insured person was already attached to a physician who would not go on the panel.

A situation of unprecedented strife and bitterness has arisen, not only between the British Medical Association and the government, but, unfortunately, between the two sections into which the profession is now cloven. Those who have agreed to work the act are denounced as "traitors," "pledge-breakers," "blacklegs," etc. All the venom of political struggles has entered into the contest. The physicians who will work the act are backed by the government press, while those who oppose it are backed by the opposition press. The placards in the streets bear evidence of the struggle by such legends as "No Doctors" (when it was thought or hoped that the government could not obtain sufficient men to work the act); "Choose Your Own Doctor," and, on the other side, "Collapse of the Doctors' Strike." In the profession itself there is some evidence of the political element, for nearly all the present leaders of the association are bitter opponents of the government, while those who resigned from the council on the decision not to work the act are supporters. No doubt many physicians view the question purely from the professional standpoint, but consciously or unconsciously the political bias enters into the

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question in the minds of others. Those who think that the act is only a further example of the wickedness of a socialistic and unscrupulous government necessarily approach the professional question in a different frame of mind from those who regard it as a beneficent scheme of social reform. In a recent editorial the *British Medical Journal* commented on the fact that the profession did not seem to concern itself with the socialistic aspect of the proposal. That was quite true. As the profession consists of men of all shades of politics, it is unwritten law that party politics must be kept outside its discussions. Therefore the act was considered purely from the standpoint of its effect on the profession. The question whether it is right or wrong for the state to provide (partially provide in this case, as the scheme is contributory) medical attendance was not considered, but simply whether it proposed to pay the physicians adequately. But though politics was not mentioned, it was inevitable that, as just explained, it must have to a certain extent influenced men's minds. The crisis has taken the worst possible form for the profession. Union has been replaced by disunion and many men are threatened with loss or ruin. In districts where the professional feeling is strongly against working the act, the men who work it will probably be ostracized and refused all cooperation in their work. The ill feeling between the two sections of the profession is so great that many old friendships will be severed.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Dec. 27, 1912.

Twenty-Five Years a Professor

The twenty-fifth anniversary of Prof. Charles Richet's appointment to the chair of physiology at the Faculté de médecine de Paris was celebrated, December 22. Charles Richet, son of Alfred Richet, a noted professor of clinical surgery, was born at Paris in 1850. He was appointed professor *agrégé* in 1878 and in 1879 was awarded the prize in experimental physiology by the Académie des Sciences for his work on the clinical and physiologic properties of gastric juice in man and the lower animals. Appointed professor of physiology at the age of 39, Richet took up a large number of problems in physiologic chemistry, experimental physiology and physiologic psychology. We owe to him especially important researches on that particular state to which he gave the name of anaphylaxis. Professor Chauveau presided at the celebration and presented Dr. Richet with a volume to which three score scholars had contributed from different countries, among them being Pawlow, Kossel, Verworn, Sherington, Chauveau and Bouchard. After the presentation, addresses were made by Professor Landouzy, dean of the Faculté de médecine de Paris, M. Dastre, professor at the Faculté des Sciences, Dr. Gley, professor at the Collège de France, Dr. Langlois, director of the *Revue générale des sciences*, and others.

The Formation of a French Eugenics Society

The International Congress of Eugenics held at London last April was an evidence of the importance which the eugenics movement has taken, notably in Anglo-Saxon countries. French physicians who attended the congress have organized for the study of questions concerning the improvement of generations to come; they have decided to invite to join with them all those who are interested in questions of heredity and natural selection in their application to man, including not only physicians but also biologists, breeders, jurists, ethical philosophers, teachers, politicians, social workers, statisticians, veterinary surgeons, etc. The society will be called the Société française d'eugénique. It will publish a quarterly review which will be distributed gratuitously to all the members.

Medical Exploitation of Industrial Accidents

I have spoken in former letters of the concerns for the exploitation of industrial accidents which sprang up after the law of 1898 on industrial accidents went into effect. An interesting decision was recently rendered in one of the Parisian courts in a case brought by a physician of one of these clinics which attracted workmen who had been injured by the bait of a bonus of five francs (81) and by giving to these workmen fifty centimes (10 cents) at each visit. This naturally resulted in the injured man's making a visit each day and in prolonging the period of his illness. The physician asserted that this was a pure philanthropy in order to help the workman take better care of himself and to pay his carfare. The judge rightly replied that if the physician now and then would make some charitable gift to the unfortunate patient that would be different; but when the physician gives indiscriminately a regular bounty of five francs to every injured person who presents himself at his clinic, the practice becomes a mere method of drumming up trade; besides, the physician pretended that the sum of fifty centimes given to the workman was for paying his carfare but it appeared from the evidence that the patient lived only a few steps from the clinic and that the wound, which was on the finger, did not prevent him from coming the short distance on foot. The court therefore decided that the defendant did not have to pay the fee demanded by the physician, and ordered the latter to pay the expenses of the suit.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Dec. 20, 1912.

Personal

Professor Kaiserling, assistant at the Berlin pathologic institute, has been appointed professor extraordinary and a member of the ecommittee for examination of dentists.

Professor v. Olshausen, formerly director of the university gynecologic clinic in Berlin, celebrated the fiftieth anniversary of his professorship December 15.

Professor Bertold, formerly professor of diseases of the ear at Königsberg, celebrated the fiftieth anniversary of his doctorate December 16.

Campaign Against Tuberculosis of the Upper Air-Passages

At its last annual meeting the association of German laryngologists resolved, on motion of Professor Friedrich of Kiel, to request the proper authorities and hospital directors to give special attention to the treatment of the upper air-passages in the campaign against tuberculosis. The association expressed its wishes in the following four statements: That in the case of patients with pulmonary tuberculosis who are cared for at the expense of the old-age insurance institutions, Krankenkassen and similar institutions, laryngeal tuberculosis of medium severity shall no longer be regarded as a reason for the exclusion of patients from sanatorium care. In official reports laryngeal tuberculosis should be given a special classification. In hospitals, hygienic institutes and other institutions devoted to the combating of tuberculosis, the condition of the upper air-passages should receive special attention. This is especially to be accomplished by the installation of laryngologists as consulting physicians, so that the necessary detection and treatment of tuberculous and non-tuberculous affections of the upper air-passages may be assured. In children's hospitals, especially in such as are located at bathing places and seaside resorts, investigation and treatment of the upper air-passages should be required immediately on entrance, so that curative measures may be successfully instituted. The installation of specialists is desirable in institutions for the treatment of lupus, in order that proper treatment of the nose may be applied early.

Improvement of the Working Conditions of Nurses

In 1908 the Reichstag provided for an investigation into the working conditions of orderlies and nurses. The available facts, however, showed that there was not enough material for forming an opinion on the question. For this reason very extensive investigations were instituted in all of the federal states, which included all the conditions existing in both public and private institutions. In all such institutions the duration of working time, regular rest periods, the frequency and duration of night service, the amount of rest provided after a night service, and provisions for rest and leave of absence were determined for all persons employed in nursing. On the result of these investigations will depend whether the alleged evils in this field will necessitate federal legislation.

Discipline in Universities

By a ministerial decree, some additions have been made to the regulations for the punishment of university students. Hereafter, in milder cases of discipline and in such as are not submitted to the decision of the senate of the university, opportunity will be given to the accused to defend themselves. Further, it is decided that in proceedings before the senate, a university teacher may be admitted as defendant, and the disciplinary authority may require the personal appearance of witnesses. On motion of the convicted persons, the verdict, together with a statement of the reasons for it, must be given in writing.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, Dec. 29, 1912.

Cholera and Small-Pox Among Turkish Refugees

There are at present about 2,000 Turkish refugees in Austria, partly disarmed soldiers, partly emigrants from Macedonia and Salonika. Cases of cholera and small-pox have appeared among these unhappy people. Among some soldiers quartered in a northern Austrian town, dysentery also was noticed. More anxiety was felt in Sarajevo, the capital of Bosnia, whither a large number of Turkish families had been brought quite recently, among whom black (hemorrhagic) small-pox occurred, five persons being attacked soon after arrival. The close contact of the fugitives while aboard the steamer which brought them makes the possibility of infection a real danger. Stringent and most extensive measures have been at once adopted to check any outbreak, and a special sanitary service has been adopted solely for the purpose of protecting the rest of the population in the endangered districts.

Return of the Red Cross Missions and the Cholera Mission from Bulgaria

The Red Cross mission of the Austrian Branch and the cholera mission have returned to Vienna from Sofia, where their work has now been completed. The details of the work done by these men will be described in a short time. Their services have been most valuable and were highly appreciated by the king, queen, the government and the population of Bulgaria. The surgical mission has organized ten hospitals; the cholera mission has successfully checked the spread of cholera, which appeared explosively soon after the dreadfully murderous battles. Now the bulk of the work is over, and the rest can be left to the Bulgarian sanitary authorities alone.

The New Penal Code and Medical Crimes

The new penal code of the Austrian parliament will no doubt soon pass the necessary preliminaries, and the medical profession will have to become acquainted with the clauses pertaining to its actions. The two chief items of the old code, viewed from this point of view, were negligence of patients and malpractice. The new law makes several differentiations: first of all the old problem of punishment in case of operative interference is dealt with. The leading idea is that surgical injury of a human body cannot be punished if the operation is done with the intention of effecting the cure of a disease. Also if the physician destroys the fetus in order to save the mother's life he cannot be accused of a crime. He is free to destroy the life of an unborn child if this is the only means of preventing a permanent grave injury to the mother. Such charges have been made in the past here more than once. But the law stipulates that the physician may be imprisoned for a period not exceeding six months, or be fined as much as 2,000 kronen ($400) if he undertakes to treat a patient against his expressed or reasonably supposed wish; also if he treats a person under 16 years without the consent of his legitimate representative, even when the patient cannot understand the necessity of the treatment, i. e., if the patient be mentally afflicted or unconscious. The physician is exempt from punishment if he undertakes treatment in order to save the life of a person; for instance, if he uses antidotes in a case of suicide. The law makes a sharp distinction between a scientific experiment on a patient and a therapeutic experiment. A scientific experiment is explained as an application of a remedy or method on the human body in order to ascertain its use for the development of medicine and to enlarge knowledge. A therapeutic experiment can consist also in the use of a remedy or method hitherto novel, but distinguished from the scientific experiment by the fact that the condition of the patient must require it. A scientific experiment which involves an injury to the patient's body or a permanent defect of his health can be punished by imprisonment not exceeding six weeks. This clause is inserted in order to give a concession to the public sentiment against some public hospitals. A slight injury to a person, which is necessary in order to cure another person, will not be punishable, for instance if a piece of skin is obtained, with the person's permission, for grafting on another person's body. As a rule slight injuries inflicted with the patient's consent cannot be prosecuted. Furthermore professional secrecy will be guarded still further by imposing fines on physicians and students of medicine for such offenses, and the recommendation of a medical or surgical treatment based on false statements will be an offense. This is chiefly aimed against the so-called "write-ups" which are so useful a means for the patent-medicine venders

Miscellany

An American Medical Association Election.—"If you stop, look, and listen you can sometimes hear the wheels creaking and groaning. The mere preparation for, and conduct of, such a congress is a tremendous job, and keeps the local committee busy for six months or more. But beyond that, there's always the burning question of electing officers—especially the President of the Association. There's sometimes as much electioneering, wire-pulling and marshaling of delegates as though the poor man were going for four years to the White House. He must be of the proper age and the proper distinction, and from the proper geographic region. He must not be too able or too distinguished; though able men, to their own surprise, do sometimes slip in; and above all, it must be shown that he has trodden on no one's corns. Then there are the followers to be reckoned with, and the rivals to be placated with the promises of future office. Oh, it's a grand game. But after all, it's harmless. It is one method of honoring a popular man, while all the time the real power rests in the trustees, as we call the executive committee. Those trustees are very important people, yet I suppose that scarcely one member in five hundred of the Association knows anything about them. They seem to combine both legislative and executive functions; they originate all sorts of new activities, keep a rein on what is going on, and appropriate the necessary moneys. We forget that the annual meeting stands for only a part of the work of the Association. The trustees and the various standing committees—like committees of Congress—are busy throughout the year considering all sorts of most important questions—of legislation and expediency, of public health and instruction, of medical education, of pharmacy and chemistry and a dozen other similar topics."—From "A Doctor's Table Talk," by Dr. James G. Mumford; published by the Houghton Mifflin Company.

A Typhoid Carrier.—In the *Bulletin* of the Kansas State Board of Health, October, 1912, S. J. Crumbine, secretary of the state board, reports the interesting case of Mrs. D., a typhoid carrier. At a luncheon served at the home of Mrs. D., pressed chicken sandwiches prepared by her were eaten by the guests. Of the twenty-six persons present all but one ate the sandwiches and later developed what was diagnosed as food poisoning, and still later symptoms of typhoid presented in all these persons except those who had previously had that disease. Subsequently twelve secondary cases developed in the families of those affected. Mrs. D. had formerly been operated on for gall-stones and at the time of the luncheon had a permanent biliary fistula. It was suggested by the former physician of Mrs. D. that, as she had had typhoid nine years before, she was probably the source of the infection. A thorough investigation disclosed the fact that, during the period since the operation for gall-stones, members of the family of Mrs. D. and a number of her neighbors, who had visited her and had eaten at her house, had suffered attacks of typhoid. Samples of the bile secretion from the fistula of Mrs. D. were examined in various laboratories and definite determination made of the *Bacillus typhosus*. The fact was thereby established that Mrs. D. was a chronic typhoid carrier and the infection of the persons present at the luncheon could be directly, and the twelve secondary cases indirectly, attributed to this source. An operation for closing the fistula was successful and subsequent examinations of urine and stools proved negative as to the typhoid bacillus. Altogether it is estimated that seventy-six cases of typhoid originated either primarily or secondarily from this single carrier during the nine years since she had had typhoid.

A Reward for Colonel Gorgas

In THE JOURNAL of the American Medical Association of last week a plea is made editorially for a proper recognition of the services of the Medical Director of the Panama Zone. Dr. Gorgas is the man who has made possible the construction of the great engineering achievement for which Colonel Goethals is to be rewarded by an act of Congress.

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We agree with THE JOURNAL in the claim that "there should be little or no difference in the rewards given the two." Not only is it true that the applications of engineering science to canal construction have no intrinsic precedence over those of medical science to the new and complex questions of tropical sanitation, but it is absolutely undeniable that without Colonel Gorgas' marvelous preparatory work in the sanitation of Panama the canal project could not have been undertaken. Not only were the engineering difficulties insurmountable to the originators and promoters in the earlier history of the canal, which for this reason terminated in disaster, but the pernicious climate destroyed the more necessary human element of the enterprise. Colonel Gorgas surmounted skilfully the insanitary obstacles, converting a hitherto uninhabitable region into one that now may boast superiority in small mortality over many cities regarded as healthy localities.

Far be it from us to detract in the slightest degree from the glory of the achievements of Colonel Goethals; but it must be obvious to any fair mind that the splendid preparations for his enterprise instituted by the labors and intellect of Colonel Gorgas entitle the latter at least to share equally in the emoluments which a grateful country should award for such achievements. Moreover Colonel Gorgas participated in the discovery which led to the triumph of the antimalarial procedures, which bore the largest share in the sanitary rescue of Panama. The reward should indeed be in keeping with the national dignity and the magnitude of the enterprise.

Not only have these two officers given their country distinguished service, as many others have done with the incentive of promotion for bravery in battle, but they have added glory to their country by the display of scientific and practical achievements which are the means of adding to the happiness and prosperity of other nations and by the lessons taught in their accomplishment of the hitherto impossible canal enterprise. On the latter ground alone Colonel Gorgas and Colonel Goethals are both entitled to large reward.—New York *Sun*, Dec. 28, 1912.

Marriages

ROBERT HENRY GULLEDGE, M.D., Mooringsport, La., to Miss Bess Eddings of Rock Point, Tex., at Shreveport, La., December 26.

JOHN ELMER MEISENHELDER, M.D., to Miss Alice Virginia Fitz, both of Hanover, Pa., at Pottstown, Pa., December 26.

THOMAS AHERN SHAUGHNESSY, M.D., Leominster, Mass., to Miss Florence E. Nixon of New York City, December 28.

BRAXTON BYNUM LLOYD, M.D., Winston-Salem, N. C., to Miss Emma Hanse of Newark, N. J., December 6.

THOMAS B. AYERS, M.D., Proctorville, N. C., to Miss Lakie Phraza Purvis of Fairmont, N. C., December 31.

EDWARD HEALEY KELLY, M.D., Dunmore, Pa., to Miss Lillian Louise Porter of Scranton, Pa., December 28.

FREDERICK PUTNAM COWDIN, M.D., Springfield, Ill., to Miss Margaret Barlow of St. Louis, December 14.

GEORGE LUCENE LANGWORTHY, M.D., Jefferson, Tex., to Miss Gilmer Bowles of Terrell, Tex., January 1.

OKEY WARREN SNODGRASS, M.D., Frankford, Mo., to Miss Ethel Howing, at Eolia, Mo., December 25.

CLARENCE T. STARKER, M.D., to Miss Helen Alexander, both of Pontiac, Mich., in Detroit, December 31.

WILLIAM F. M. SOWERS, M.D., Washington, D. C., to Miss Ruth Felton of Chicago, January 1.

LLEWELLYN M. HINSHAW, M.D., to Miss Pearl Alvord, both of Bennington, Kan., December 26.

BUNDY ALLEN, M.D., St. Louis, to Miss Edith Cochenour, at Pinckneyville, Ill., December 24.

ARNOLD JOLLY, M.D., Hamburg, Ia., to Miss Nellie Thornton of Farragut, Ia., December 25.

EZRA EAMES CLEAVES, M.D., to Miss Margaret Tarr, both of Rockport, Mass., December 31.

JOHN WYMAN DEAN, M.D., to Miss Grace M. Wood, both of Glens Falls, N. Y., recently.

Deaths

James Bosley, M.D. University of Virginia, Charlottesville, 1874; health commissioner of Baltimore since 1900; died at his home, January 5, from pneumonia, aged 60. Dr. Bosley entered the municipal service as vaccine physician of Baltimore, serving for two years and was school commissioner of the city from 1889 to 1897. He was a sanitarian of wide repute, and was active in the obtaining of needed legislation for the safeguarding of the city's health. One of the chief achievements of his career was the establishment of the Sydenham Hospital for Infectious Diseases. He was a member of the American Medical Association and took an active part in the International Congress on Hygiene and Demography. On the Monday before his death Dr. Bosley, ill at the time, was the guest of honor at the annual banquet of the Health Department.

Robert Murray, M.D. University of Pennsylvania, Philadelphia, 1843; Brigadier General and Surgeon-General, U. S. Army (retired); died at his home in Baltimore, January 1, from pneumonia, aged 90. Dr. Murray entered the Army as assistant surgeon in 1846, reached the grade of Brigadier General and Surgeon-General, Nov. 23, 1883, and was retired for age Aug. 6, 1886. He served during the Mexican War, and for meritorious services during the Civil War was brevetted lieutenant colonel and colonel. During a portion of this time he was purchasing agent of the medical supply depot of the Army. Since his retirement Dr. Murray had traveled extensively and lived abroad for nearly ten years.

William Henry Watson, M.D. Hahnemann Medical College, Philadelphia, 1854; one of the founders of the New York State Homeopathic Hospital for the Insane, Middletown; surgeon-general of New York in 1880; from 1881 to 1904 a member of the board of regents of the University of the State of New York; a member of the advisory board of tuberculosis of the New York State Department of Health and representative from New York at the Tercentenary of the Bodleian Library, Oxford, in 1902; died at his home in Utica, January 1, from nephritis, aged 83.

Milton Pinckney Creel, M.D. Louisville (Ky.) Medical College, 1883; a member of the American Medical Association; American Association of Railway Surgeons; American Association of Life Insurance Examiners and National Association of U. S. Pension Examining Surgeons; local surgeon for the Illinois Central and Louisville and Nashville systems; mayor of Central City, Ky.; died at his home, January 1, aged 61. (Tu)

Richard Channing Massenburg, M.D. University of Maryland, Baltimore 1884; a member of the Medical and Chirurgical Faculty of Maryland; secretary of the Baltimore County Medical Association; health officer of the ninth district of Baltimore County; for several years major of the Towson Guards, and later of the First Infantry, N. G. Md.; died at his home in Towson, December 30, from diabetes, aged 67.

Charles Flint Kline, M.D. University and Bellevue Hospital Medical College, 1903; a member of the Ohio State Medical Association and local surgeon at Portsmouth, Ohio, for the Norfolk and Western Railroad; formerly president of the Hempstead Academy and a member of the staff of the Hempstead Hospital; died at his home in Portsmouth, January 7, from cerebrospinal meningitis, aged 35.

Peter Donnelly, M.D. Jefferson Medical College, 1895; a member of the American Medical Association and police surgeon of Toledo, O.; was accidentally drowned, January 4, aged 43. While making a professional call, Dr. Donnelly is believed to have lost control of his automobile which plunged through the guard-chains of the dock and into the Maumee River.

Edward Paul Bailey, M.D. College of Physicians and Surgeons, New York City, 1883; a member of the American Medical Association; a local member of the state tuberculosis committee; a member of the board of trustees of Oneida, N. Y., and coroner-elect of Madison County; died at his home in Oneida, December 23, from malignant disease, aged 57.

William C. Maxey, M.D. University of Tennessee, Nashville, 1881; a veteran of the Civil War; a pioneer practitioner of Caldwell, Idaho; once a member of the state legislature and the Constitutional Convention and later commandant of the Soldiers' Home, Boise; died in Los Angeles, December 27, aged 68.

Charles L. Kennedy, M.D. College of Physicians and Surgeons, Baltimore, 1897; of Troy, S. C.; while driving over a crossing of the Charleston and West Carolina Railway, near Troy, December 26, was struck by a train and instantly killed, aged 38.

Juriah Fuller Collyer, M.D. Kentucky School of Medicine, Louisville, 1893; a member of the State Medical Association of Texas; formerly physician of Montgomery County; local surgeon of the International and Great Northern and Gulf, Colorado and Santa Fe railroads; died at his home in Conroe, December 28, from pneumonia, aged 50.

Frederic Smith Sellew, M.D. College of Physicians and Surgeons, New York City, 1881; a member of the Medical Society of the State of New York; New York Academy of Medicine, New York Pathological Society and Society of Medical Jurisprudence; died at his home in New York City, December 28, from heart disease, aged 54.

Ralph F. Sommerkamp, M.D. Medico-Chirurgical College of Philadelphia, 1899; a member of the American Medical Association, the Blockley Ex-Residents Club and many other medical societies; a practitioner of established reputation and esteem; died at his home in West Philadelphia, December 23, from diabetes, aged 47.

William R. Howard, M.D. Washington University, St. Louis, 1873; a member of the American Medical Association and American Microscopical Society; professor emeritus of histology, pathology and bacteriology in the Fort Worth (Tex.) University; died in Forth Worth, December 25, from cerebral hemorrhage, aged 64.

Oliver Parker Penning, M.D. University of Maryland, Baltimore, 1897; a member of the American Medical Association; assistant demonstrator of anatomy and assistant in surgery in his alma mater from 1902 to 1904; died at his home in Baltimore, December 29, from splenomyelogenous leukemia, aged 43.

Leona M. Archey, M.D. College of Physicians and Surgeons, Baltimore, 1880; a member of the American Medical Association; assistant surgeon of the First North Carolina Infantry, U. S. V., during the Spanish-American war; died at his home in Concord, N. C., December 29, from heart disease, aged 59.

Preston Benjamin Rose, M.D. University of Michigan, Ann Arbor, 1862; assistant in chemistry, assistant professor of physiologic chemistry and toxicology, and lecturer on renal diseases in his alma mater, between 1861 and 1881; died at his home in Ann Arbor, December 25, aged 77.

Paul R. Tainter, M.D. Hospital College of Medicine, Louisville, Ky., 1902; a member of the American Medical Association; of Callao, Mo.; aged 35; was instantly killed by the overturning of his automobile, while making a professional call, December 27, five miles south of Callao.

Franklin G. Humiston, M.D. University of Pennsylvania, Philadelphia, 1886; a member of the New Hampshire Medical Society; for twenty-seven years a practitioner of East Jaffrey, N. H.; died in the Eliot Hospital, Boston, December 31, after a surgical operation, aged 57.

Charles C. Daniel, M.D. Medical College of Virginia, Richmond, 1906; a member of the Medical Society of Virginia; formerly of Disputanta; local surgeon of the Norfolk and Western Railway at Boissevain; died at his home, December 27, from typhoid, aged 29.

Wilburn Walter Ford, M.D. Mississippi Medical College, Meridian, 1907; a member of the Mississippi State Medical Association; was shot from ambush and instantly killed, December 25, near his home in Coffedeliah, near Philadelphia, Miss., aged 35.

Edward Dimler (license, Minn., exemption certificate, 1883); hospital steward during the Civil War; a practitioner since 1859 and for thirty-two years a resident of Minnesota; died at his home in Granite Ledge, December 29, from senile debility, aged 79.

George Louis Farrell, M.D. Jefferson Medical College, 1895; a member of the Massachusetts Medical Society; for two terms mayor of Malden and formerly a member of the Malden School Committee; died at his home, January 2, from pneumonia, aged 44.

Thomas Spec Jones, M.D. Philadelphia College of Medicine and Surgery, 1848; at one time a member of the faculty of Centenary College, Jackson, La.; died suddenly at his home in Baton Rouge, La., January 1, from senile debility, aged 85.

Royston Ford, M.D. Cincinnati College of Medicine and Surgery, 1880; of Greenville O.; aged 68; while returning in his automobile from a professional call near Greenville, January 1, was struck by a freight train and instantly killed.

Robert Young Rudicil, M.D. Medical College of the State of South Carolina, Charleston, 1855; surgeon in the Confederate service throughout the Civil War; died at his home in Trion, Ga., December 24, from senile debility, aged 80.

John L. Dryden, M.D. Homeopathic Medical College of Missouri, St. Louis, 1891; professor of anatomy in his alma mater and treasurer of the St. Louis Anatomic Board; died at his home in St. Louis, December 25, aged 49.

Joseph D. Barry, M.D. Northwestern University Medical School, Chicago, 1906; of Denver; a member of the American Medical Association; died at the Phipps Sanatorium, Denver, December 28, from tuberculosis, aged 36.

Samuel Stevenson, M.D. University of Michigan, Ann Arbor, 1859; for more than fifty years a practitioner of southern Michigan; died at the home of his daughter in Morenci, from kidney disease, aged 79.

Charles Erskine Brayton, M.D. College of Physicians and Surgeons, New York City, 1873; a member of the American Medical Association; died at his home in Stonington, Conn., December 2, aged 61.

John Priestman (license Illinois, 1877); a practitioner since 1855; formerly of Neponset, but a resident of Chicago since 1885; died at his home, January 1, from intestinal obstruction, aged 83.

William M. Patton, M.D. Chicago Homeopathic Medical College, 1896; of East Moline, Ill.; died in a sanatorium in Montreal, Quebec, December 28, from organic heart disease, aged 51.

George W. Monroe, M.D. Tulane University, New Orleans, La., 1859; a veteran of the Civil War and a pioneer practitioner of Montana; died in Butte, about December 22, aged 74.

George M. Keller, M.D. State University of Iowa, Iowa City, 1874; a veteran of the Civil War; died in the California Soldiers' Home, Yountville, October 12, from pneumonia, aged 70.

Nathan G. Mothershead, M.D. Hospital College of Medicine, Louisville, 1879; a Confederate veteran; died at his home in Earlington, Ky., January 1, from acute gastritis, aged 68.

Frank Seba Jones, M.D. Rush Medical College, 1876; a member of the American Medical Association; died at his home in Medina, O., December 18, from arteriosclerosis, aged 65.

Ben Kissinger Clifford, M.D. Denver and Gross College of Medicine, Denver, Colo., 1909; of Denver; died at his home in that city, December 29, from acute nephritis, aged 27.

Wesley Lawson (license, years of practice, Illinois, 1879); one of the oldest practitioners of Homer, Ill.; died at the home of his son in St. Petersburg, Fla., December 20.

Henry F. Pahl, M.D. Homeopathic Medical College of Pennsylvania, Philadelphia, 1868; a Confederate veteran; died at his home in Brenham, Texas, December 23, aged 74.

James Gordon, M.D. Jefferson Medical College, 1866; for two terms health officer of Newburgh, N. Y.; died at his home in that city, December 15, from gastritis, aged 74.

Joseph Solatinaw, M.D. Eclectic Medical College of the City of New York, 1882; died at his home in Passaic, N. J., December 26, from cerebral hemorrhage, aged 65.

William Riegel Carpenter, M.D. Medico-Chirurgical College of Philadelphia, 1900; died at his home in Frenchtown, N. J., November 25, from heart disease, aged 39.

Mary E. Metcalf Brown, M.D. National Medical University, Chicago, 1898; died at her home in Wheatland, Wyo., December 18, from cerebral hemorrhage, aged 56.

Charles L. Duffell, M.D. Jefferson Medical College, 1862; a member of the Medical Society of New Jersey; died at his home in Salem, November 20.

Guy Carlos Marsh, M.D. Cleveland University of Medicine and Surgery, 1889; died at his home in Galion, Ohio, December 26, aged 48.

Albert Hazlett King, M.D. Jefferson Medical College, 1894; died at his home in Riddlesburg, Pa., December 20, from pneumonia, aged 45.

Charles Henry Davis, M.D. University of Tennessee, Nashville, 1900; died at his home near Nashville, Tenn., December 26, aged 58.

Horace Joseph Gibbons, M.D. University of Vermont, Burlington, 1899; died at his home in Carbondale, Pa., November 17, aged 37.

Paul Octave Labry, M.D. Tulane University, New Orleans, 1884; died at his home in Morganza, La., November 16, aged 60.

Thomas S. Kepler (license, Iowa 1886); a practitioner since 1863; died at his home in Mount Vernon, December 20, aged 74.

James H. Owsley, M.D. University of Louisville, Ky., 1870; died at his home in Sonora, Ky., about December 28, aged 77.

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The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

PROPRIETARY VANADIUM PREPARATIONS

Report of Council on Pharmacy and Chemistry on Products of Vanadium Chemical Co.: Vanadiol, Vanadioseptol, Phospho-Vanadiol, Vanadoforme, Etc.

Vanadiol and preparations thereof, the products of the Vanadium Chemical Company, were submitted to the Council. After thorough investigation it was concluded that the company has not, and never has had, any reliable evidence for the therapeutic claims it has presented to the medical profession regarding these products. Accordingly the Council voted that the several products under consideration be not accepted for inclusion with New and Nonofficial Remedies. The findings of the Council having been submitted to the Vanadium Chemical Company and its reply considered, the Council authorized publication of the report which appears below.

W. A. PUCKNER, Secretary.

The Vanadium Chemical Company, Pittsburgh, Pa., submitted to the Council on Pharmacy and Chemistry for inclusion in New and Nonofficial Remedies the following products: Vanadiol, Vanadioseptol, Phospho-Vanadiol, Vanadium Solution for Intravenous and Hypodermic Use and Vanadoforme. At the same time, the company submitted statements and "literature" regarding the composition and therapeutic value of these products. The committee to which the matter was referred, after carefully considering both the matter presented and certain modifications in the advertising matter to which the company consented, reported that the evidence, especially that relating to the therapeutic value of the preparations, was insufficient to warrant the acceptance of the articles. Since the validity of therapeutic claims can be determined to a certain extent by experimental investigation, the Council decided to postpone final action until sufficient dependable evidence as to the therapeutic value had been submitted.

Accordingly, a series of questions was sent to the Vanadium Chemical Company for the purpose of learning on what pharmacologic evidence the therapeutic claims were based. After waiting several months, the information requested not being furnished, the Council took final action on the products. This action was based both on the evidence originally submitted and on the advertising matter being sent out by the company at the time.

Briefly, Vanadiol is said to contain a compound of vanadium with oxygen and chlorin, which gives up its oxygen to readily oxidizable substances, such as the blood. In addition to this compound it contains an oxidizing agent (sodium chlorate) which is said to serve as a source of oxygen, so that, according to the theory of the promoters, Vanadiol acts in the animal system as an oxygen-carrier.

The following is quoted from an advertising circular:

"Most thorough and conclusive physiological tests were made on guinea-pigs and other animals, which established undoubted evidence as to the truth of this theory.

"INFLUENCE

"Under the influence of Vanadiol and the other derivatives, the appetite is increased, there is greater ability to peptonize ingested proteid material, and, through the improvement in the assimilative powers and the checking of abnormal fermentations, leads to an increase in weight. A greater excretion of urea follows their use. Phagocytic action is promoted by an increase in the leucocytes. All phases of the elimination of waste materials are favored by the positive increase in the number of red blood corpuscles and the percentage of hemoglobin, hematogenesis being thereby rendered more perfect. The beneficent effect of nascent (active) oxygen, upon the red corpuscles and upon tissue cells of low vitality are matters of common knowledge. The results obtained from the vanadium derivatives are not drug effects, but are due to improved metabolism, which in turn is due to the removal of microbian toxins, and the general stimulation of cell activity.

"In a tubercular organism, the action of Vanadiol is two-fold. First, it acts as an antiseptic and antitoxin, combating the Koch bacilli and neutralizing their poison. Second, as a reconstituent of the economy, to which it furnishes nascent oxygen, fortifying the defenseless cells by the very element that is necessary to make them healthy and resistant."

"In Anemia and Chlorosis, the blood cells lack oxygen, and in Neurasthenia the nerve cells are deficient. Vanadiol brings both blood and nerve cells from a condition of weakness and decay into vital energy, by furnishing them with active oxygen in a manner that had not been possible by any other medicine."

"Vanadiol accelerates the work of digestion by producing HCl in small doses; it does not hinder the peptonization of albuminoids as do beta-naphthol, salicylic acid, boric acid, etc., when used as a stomachal antiseptic, but on the contrary it favors, by hydrochloric acid, the transformation of albuminoids into peptone without the assistance of pepsin. Thus, Vanadiol, when given to consumptives, favors the digestion of large amounts of proteid materials and causes oxidation of toxins of the stomach. The stomachic action is reflected in other parts of the organism by the stimulation of the chief functions; the pulse becomes stronger and muscular strength increases; and, last, but of greatest importance, is the tremendous increase which will be noted in the hemoglobin and the red cell count."

"Phospho-Vanadiol, a combination of Vanadiol with an easily assimilable organic phosphorus, is an active accelerator of general nutrition with a special action on the nervous system."

Such remarkable statements as these are past credence, certainly, unless they are supported by scientific evidence. And evidence, either in support or in contradiction of the claims made, could be obtained for many of these actions, at least, are capable of proof by animal experimentation. The Vanadium Chemical Company was asked to furnish such proof but failed to do so. The inference is plain! The committee has concluded that the company has not, and never has had, any reliable evidence on which to base the therapeutic claims it has presented to the medical profession.

Here another fact should be noted. It is the connection shown in THE JOURNAL, June 22, 1912, of the general manager of the Vanadium Chemical Company, F. M. Turner, with a fraudulent obesity cure concern, the Dr. Turner Company of Syracuse, N. Y.

It seems, moreover, by all the evidence available, that F. M. Turner is not authorized to use the title M.D.; yet, under this title his name appeared on cards representing the Vanadium Chemical Company and under this title, also, he published an article in a medical journal recommending to the medical profession the use of Vanadiol. Later this article was distributed as an advertising circular by the Vanadium Chemical Company. Turner's connection with the Dr. Turner Company is known and acknowledged by the Vanadium Chemical Company, yet it still retains him as general manager!

While there is not necessarily any direct relation between the personnel of a proprietary manufacturing company and the value of that company's product, it is natural that the medical profession should view with distrust any concern managed by one who has previously been connected with such a fraud as the Turner obesity cure.

The committee therefore recommends that the preparations of the Vanadium Chemical Company be refused recognition, and that this report be authorized for publication.

FULTON'S DIABETIC COMPOUND

Dr. George Y. McCracken, Philadelphia, writes: "I am continually hearing of Fulton's Diabetic Compound and of its wonderful (?) results. Advising patients not to use it without knowing its composition so as to give an intelligent reason for such advice does little good. Can you give me its composition?"

Fulton's Diabetic Compound has not been examined in the Association Laboratory, but the so-called Renal Compound, put out by the same concern, has been examined. The latter was found to consist of some herbs, which were not identified, alcohol 5 per cent. and water. No alkaloids were found and the presence of heavy metals, iodids, bromids or acids could not be demonstrated. Like most of the fraudulent "cures" for diabetes, the "Diabetic Compound" is doubtless an alcoholic solution of vegetable extractives having a diuretic effect. Careless examination of individual specimens of urine instead of portions of the twenty-four-hour excretion will show an appar-

ent diminution in the amount of sugar in the urine of persons taking a diuretic. This point was referred to editorially in THE JOURNAL, Nov. 9, 1912, under the title: "A Possible Fallacy in Testing Diabetic Urine." The viciousness of giving a diabetic a drug that "whips up" the already irritated kidneys must be patent to any physician.

MORE ABOUT THE OXYPATHOR FRAUD

Dr. Mark H. Rhoads, San Diego, Cal., writes: "I am informed that you have investigated the Oxypathor and have issued a pamphlet concerning it. Do you know how and of what material it is constructed? Please send me any literature you may have bearing on it, and I will remit cost by return mail."

The Oxypathor is a later name given by the manufacturers to a fraudulent device originally sold under the name Oxygenator. The device is, essentially, a piece of nickel-plated brass pipe filled with inert matter. It was examined in the laboratories of the University of Vermont, and the board of health of that state issued a warning notice pronouncing it a fraud and prohibiting its sale in that state. The laboratory report said:

> "The hollow interior is filled with a black powder which analysis discloses to be a crude mixture of inert substances, apparently the waste or by-product of a manufacturing plant . . . The powder is a rough mixture of iron filings, clayey material and a dark-colored carbonaceous mass, . . . apparently nothing more than coke-dust or carbon-black."

The Australian government has recently issued an official proclamation forbidding the importation of the Oxypathor (Oxygenator) into that country. In addition to its "drugless" fraud, the Oxypathor Company is now exploiting a line of drugs for "sick feet," "perspiration odors," etc. The American Medical Association issues a pamphlet entitled: "The Oxydonor and Similar Fakes" (price 4 cents) which makes plain the worthlessness of these widely advertised pieces of nickel-plated gas-pipe.

Correspondence

Gauze Sponges in Abdominal Operations

To the Editor:—At the annual meeting of the American Gynecological Society in Baltimore, in May, 1912, Dr. Francis Wakefield of San Francisco demonstrated a method of employing gauze in laparotomies both for making a wall around the field of operation and for sponging blood and other fluids. He employed three strips of prepared gauze several yards in length fastened in pockets attached to the laparotomy sheet, the largest of the three being used to pack the intestines away from the area of operation. In routine work the gauze is fastened in the pockets of the sheet before the latter is folded and sterilized.

After my return from the meeting, I immediately adopted Dr. Wakefield's procedure in my clinic in the Presbyterian Hospital, Chicago, and I am now glad to be able to recommend it most highly as a method of making it practically impossible to lose a piece of gauze in the abdomen.

I must, however, urge strongly that Dr. Wakefield's method be modified in one particular. As it has been recommended, the strips of gauze are dry. While this is satisfactory in regard to those pieces which are used for sponging fluids, it is objectionable in regard to the strip which is employed to push aside the intestines. In several cases in removing this gauze I noticed that it had adhered firmly to the wall of the bowel, leaving the latter quite dry after it had been stripped away. Such irritation of the intestine by dry gauze is liable to lead to adhesions. I would therefore advise the following modification: When the patient is ready for the abdominal incision, the laparotomy sheet being in position, the long "packing-off" strip of gauze should be soaked in warm normal saline solution, excess of the fluid being wrung out. When the abdomen is opened, the wet gauze is used as recommended by Dr. Wakefield. The intestines are not irritated in this manner. The sponge gauze used to soak fluids is used dry as he has advised.

This method is a great improvement over the usual procedure of counting sponges before and after operation, and is calculated to do away with those occasional periods of anxiety which occur in the operating-room when the latter technic is employed, no matter how careful the operator and his staff may be.

J. CLARENCE WEBSTER, M.D., Chicago.

Limitations of Suggestion in Hyperthyroidism

To the Editor:—I wish to make an emphatic protest against many of the statements found in the editorial entitled "Suggestion in Hyperthyroidism" in THE JOURNAL, Dec. 14, 1912, p. 2154, for it contains many statements given with the authority of THE JOURNAL which, if allowed to go unchallenged, afford many possibilities for harm.

Apparently hyperthyroidism is no longer a field for legitimate medicine and surgery, but the door is open for the Christian Scientist, the chiropractic, the osteopath and the practitioners of all the other cults, who need only to persuade the patient that a particular "mode of treatment is likely to be beneficial," for under these conditions "there is prompt relief of most, and sometimes, it would almost seem, of all their symptoms shortly after the institution of the treatment in question."

How perfectly lovely! There is no qualification to the conditions; merely persuade the patient that the treatment is likely to be beneficial and his troubles are over. Let us now include persuasion in the medical curriculum. Surely no physician who has the interest of his patients at heart will subject them to a troublesome course of medical treatment or to the danger and pain of surgery when he can alleviate "most, and sometimes, it would almost seem, . . . all of their symptoms" by the laying on of hands, massage with an executioner's rope, painting the second phalanx of the left thumb with carbol fuchsin—or by any other treatment whatsoever so long as he has previously persuaded the patient that the treatment is likely to be beneficial.

The door is now open and the way clear for all types of persuasionists. No less authority than THE JOURNAL by its dictum has so declared it. At many medical meetings, during recent years, I have often been amused to hear some grave and reverend senior arise to discuss the subject of hyperthyroidism, and have heard him recount the familiar history of the snake-skin, the mummy, the executioner's rope and the dead hand of the executed criminal as a serious contribution to the subject. It might be well at future meetings to announce to the attending physicians that this chapter in the history of medicine is fairly well understood and appreciated, and thereby save the time for some really serious discussion. Any disease which has a percentage of recovery without treatment has a multitude of remedies advanced by serious advocates.

It is a dangerous doctrine to assert that the removal of hypertrophied, infected tonsils and adenoids has a beneficial effect in hyperthyroidism merely as a matter of suggestion. During the last six years I have had occasion to direct the treatment of more than 2,500 cases of hyperthyroidism including all types of the disorder, and it has been my experience that in a large percentage of these patients infected tonsils and adenoids are a very important factor in the etiology. This observation has been made by others who have had an extended experience with this disease. In a paper entitled "Medical Treatment of Graves' Disease," published by me in the *New York State Journal of Medicine*, September, 1912, the following paragraph is found:

> "It has been a common observation that a very considerable portion of these patients have enlarged tonsils and adenoids, and an acute attack of hyperthyroidism may follow promptly an acute attack of tonsillitis. These patients often give a history of repeated attacks of acute tonsillitis preceding the development of a goiter, with all the characteristic symptoms of the disease. Care must be taken to prevent these interferences or to quiet them as much as possible. When the patient can stand the operation, it is advisable to have a complete tonsil enucleation. Such an operation may be quite as valuable to

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the patient as a ligation of the superior thyroid arteries. The physician should use every care to correct a chronic throat affection and to prevent any acute development of the same."

These observations are the result of experience and are the experience of many clinicians.

It is the sheerest nonsense to assume, as is done in the editorial, that such beneficial effects follow because of some favorable influence on the mind of the patient. A patient need not have any mind at all in order to be seriously disturbed by an acute tonsillitis. I am not prepared to say that such operations as are cited on the turbinates, nasal polypi and spurs are of the same importance as those on the tonsils and adenoids, but I am unwilling to grant that beneficial effects following such operations, if they occur, are altogether a matter of suggestion. Such operations may remove a focus of infection and be a distinct aid in maintaining hygienic conditions in the nose and throat.

No intelligent physician is unaware of the value of suggestion in the treatment of disease. Any sick person needs some degree of assurance, and this is most favorably received when given by a physician who knows the condition and can speak with authority. And there are many pathologic conditions that benefit from suggestion quite as much as hyperthyroidism. Every successful physician uses suggestion consciously or unconsciously; but this is quite a different matter from maintaining that suggestion alone is the only therapeutic method needed to produce relief in most or all of the symptoms of hyperthyroidism. In the article published in the *New York State Journal of Medicine* previously referred to, the following paragraph is found which outlines the conditions of the environment which should obtain in these conditions:

"In a large proportion of cases the disease has followed a period of overwork, mental or physical, anxiety or unusual responsibility, a severe emotional disturbance, or depleting infectious disease. There are, however, instances in which no such origin can be traced, but these form only a small percentage of the total. Because of this fact there is, in the hygienic treatment of the disease, no one feature which is of so much importance by any method whatsoever as that of rest; and rest does not consist simply in putting the patient to bed. Very frequently physicians believe that by ordering a patient to lie down for an hour in the morning, two hours in the afternoon, and to lead a quiet life that they are securing the necessary rest for their patient. Rest must be physical, mental and emotional, in just so great a degree as it is possible to control these factors. If the disease is well marked it is well to have the patient spend a large part of the twenty-four hours lying down. In the really severe conditions patients must be in bed for a considerable period and treated with respect to their activity as though they had typhoid fever. Very frequently the rest necessary cannot be obtained in a patient's home as there the various members of the family may prove to be a source of great disturbance. No mental work can be permitted, or business affairs directed from the patient's bed. In the beginning few or no visitors should be admitted because of the excessive stimulation under which these patients are living. Very often they rebel at these provisions and declare it to be utterly impossible for them to stay in bed, and make all sorts of excuses for added activity. It may be necessary in the beginning to use a sedative to control the unusual excitement and excessive stimulation under which they live. It is useless to attempt to treat medically or surgically a patient with active Grave's disease who is unwilling to give the necessary amount of time for the rest required. Because they are physically able to be up and about, and feel fairly well, they are unable and often unwilling to appreciate the serious nature of their disorder. The rest must be as complete as possible, and considerable time must be spent in determining what are the specific disturbing factors in each case. Their personal history must be known, the sources of worry and emotional disturbances, and, as far as possible, their fears removed and the whole environment of the patient restored to just as complete a degree of tranquillity as the circumstances will permit. Therefore, simply to put a patient in bed answers only a portion of the demand needed for rest."

The paragraph just quoted is an outline of the physician's duty toward his patient from the standpoint of the latter's environment, but in no sense does it answer all the demands for medical treatment.

In the editorial in question the following statement is made: "Then a preparation of animal serum obtained after the injection of portions of enlarged human thyroids into animals seemed to do good. After a time, however, all these remedies proved unavailing." This statement is absolutely untrue. The serum mentioned is one which I devised and used in the treatment of a large number of cases of this disease. It has been used, likewise, by many other clinicians scattered all over the country with such a degree of success—success which is continuing at present—that such sweeping statements as these made in the editorial have no justification in fact. The statement was probably made by a writer who has had little or no experience in the use of the serum. Physicians at present have made some progress since the period when the mummy and the executioner's rope were received with favor, and the careful observations of the many competent clinicians persuade me in addition to my own experience that this serum has much more than a suggestive value. It has been employed only during the last six years, but the difficulties of its preparation are such that it can never become a popular method of treatment.

There is one statement in the editorial with which I can heartily agree, a suggestion in the last paragraph for a careful and critical investigation of any remedy or mode of treatment that may be asserted to benefit this affection. Such an investigation applies with equal force to any new treatment of any disease whatsoever and is welcomed by those who have a deep interest in the progress of therapeutics.

S. P. BEEBE, New York.

[COMMENT.—Our reply to this is the editorial criticized—carefully read.—ED.]

Destruction of the Protective Protein in Rice

To the Editor:—I have followed with great interest the series of articles bearing on the etiology of beriberi appearing in THE JOURNAL of late. The field seems to be about equally divided between the adherents of spoiled rice and polished rice, with the latter claiming the most attention because of scientific demonstrations.

As yet I have failed to note where any writer has brought out the one obvious point which will harmonize the two theories. Rice spoiled under conditions of heat and moisture certainly does cause beriberi in many cases—but such rice is deprived of its protective protein (if such it be) by spoiling as thoroughly as by polishing. This is not the case in every instance, as some forms of molds may render rice unfit for food without much destruction.

Beriberi is almost unknown in this part of Korea, the climate being too dry to cause extensive spoiling, while polished rice is unknown. Besides, the soy and other beans make up a fair share of the native dietary.

M. C. HARDING, M.D., Mokpo, Korea.

A Worthy Use for Discarded Surgical Instruments

To the Editor:—The American Board of Commissioners for Foreign Missions is carrying on extensive medical work in Turkey, India, China, Africa and the islands of the sea. About fifty thoroughly equipped physicians are in charge of this work, and last year nearly 400,000 patients were treated in the hospitals and dispensaries connected with the work. Nearly all the hospitals are so remote from other modern medical facilities that the physicians in charge are compelled to be experts in almost every department of medicine and surgery, and each surgeon must have all the instruments required for the performance of the operations which he undertakes.

As an illustration of the operations performed, the physician in charge of the hospital at Cesarea, Asia Minor, reports 91 abdominal operations and over 800 other operations performed in ten months by himself. According to a report just received from Northern Syria, Turkey, covering a period of nine months, 666 operations were performed, of which 209 were eye cases, 21 urinary calculi, 61 bone cases, and 65 abdominal; in the period named, 5,492 patients were seen, with 394 patients in the hospital.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

PUBLIC HEALTH LEGISLATION IN 1913

This is the year in which the biennial session in most of our state legislatures is held. According to the best available information, the following state legislatures are now in session: Arkansas, California, Colorado, Connecticut, Delaware, Florida, Idaho, Illinois, Indiana, Iowa, Kansas, Maine, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Washington, West Virginia, Wisconsin and Wyoming. The legislature in Arizona will meet February 3. The legislature in Vermont has been in session since October.

It is probable that public health legislation will occupy a prominent place in the legislative work of this winter. Public health bills have been or will be introduced in practically all legislatures.

In Arizona, a bill is proposed prohibiting marriage among insane, epileptics, alcoholics and those afflicted with venereal or incurable diseases. In Arkansas, a new board of health bill will be introduced. In California the Committee on Public Health of the State Federation of Women's Clubs is endeavoring to secure support for a bill requiring a health certificate as a preliminary to marriage. Another proposed measure prohibits the marriage of any person afflicted with tuberculosis. In Georgia a bill is being prepared broadening the scope of the State Board of Health, and making additional appropriations for its use. The legislative committee of the Idaho State Mothers' Congress has approved a bill requiring a physician's certificate as a condition for a marriage license. In Illinois an effort will be made to secure the passage of the model bill for the registration of vital statistics. Incidentally the Master Plumbers' Association of the state has asked Governor-Elect Dunne to appoint a master plumber or a sanitary engineer on the State Board of Health. In Indiana the Committee on Tuberculosis of the State Medical Society has drafted a bill for the elimination of tuberculosis providing that each county shall maintain a tuberculosis hospital or camp large enough to care for all the consumptives in the county. The measure also provides for the isolation of all consumptives, and the disinfection of all houses in which consumptives have lived or died. Medical supervision of schools is also provided for. In Iowa a bill providing for an adequate appropriation for the State Board of Health in place of the previous annual appropriation of $5,000 will be presented. A bill providing for the medical inspection and supervision of pupils in the model school of the Kansas State Normal and for permissive medical supervision of the public schools of the state has been worked out by the Kansas State Normal and the Secretary of the Kansas State Board of Health.

Much interest is being taken in public health legislation in Michigan, in part due to the advanced position taken by the new governor, Hon. Woodbridge N. Ferris. In his inaugural address delivered before the two houses of the legislature January 2, Governor Ferris discussed sanitary schoolhouses and medical practice laws and their bearing on the health of the state. On the first topic he said:

"For more than a quarter of a century I have made a careful study of the schoolhouses in Michigan. The majority of them are insanitary and unfit for livestock to occupy. They rarely furnish adequate light, never furnish a proper supply of pure air, are not comfortably heated and, on the whole, are destructive to the health of school children. It should be remembered that the ordinary schoolroom, unlike the ordinary dwelling-room, is frequently occupied by a large number of children. Probably no one reform would exert a greater influence in reducing the death-rate of children than would the construction of sanitary schoolhouses. Ordinarily, school officers know very little about modern sanitation. It is largely a question of how large a 'pen' is required to protect the boys and girls from inclement weather. A law should be enacted whereby all plans for schoolhouses should be submitted to the superintendent of public instruction and the secretary of the State Board of Health. These officials would approve of the heating, ventilating and lighting, in fact, of all the sanitary essentials, before the contracts could be entered into for construction. In states where this plan has been pursued satisfactory results have been realized."

Discussing medical practice laws, Governor Ferris was equally positive. His views on this subject mark such an advance that they are worthy of careful attention. He said:

"From a materialistic standpoint, no investment yields greater returns to the wealth of the state than health. A recent estimate of the economic value of life in England shows that human labor capitalized is worth five times all other capital. The physicians of Michigan stand ready to further all legislation that tends to enlighten the people along lines that conserve health. At present, Michigan is the camping-ground for numerous medical fakers. I suggest the enactment of a law whereby practitioners be required to pass examinations before the State Board of Medical Examiners, or State Board of Health, in physiology, anatomy, hygiene, chemistry, bacteriology, physics, pathology and diagnosis. A knowledge of these subjects is fundamental in any rational attempt on the part of a practitioner to serve the best interests of his patients. This is a reasonable requirement, and the legislation along this line ought to command not only the approval of the profession, but the approval of laymen generally."

It should be noted that Governor Ferris' proposition is to put the regulation of those who desire to treat the sick on a purely educational basis. The subjects mentioned by him are scientific ones that are in no way controversial or sectarian.

The Michigan State Board of Health has prepared a bill giving the board supervisory and visitorial power over all water-works systems, both municipal and private, and also over all sewage-disposal systems. The board of health is given power to call an annual conference of local health officials and is also given the power to pass on all appointments of local health officers. Provision is also made for a state sanitary engineer who shall give his entire time to the inspection of water-works and sewage and garbage-disposal systems in cities and villages. A bill prohibiting the marriage of the physically and mentally unfit has also been introduced. In addition, the Traveling Men's Association has demanded a bill requiring better sanitary and fire protection in the hotels of the state, and empowering the labor commissioner and the food and dairy department to inspect hotels and enforce the law. An amendment to the present law for the prevention of rabies is also proposed.

In Missouri a campaign for better sanitation of shops and workrooms is being carried on.

In Nebraska a conference on public health legislation has outlined a program for legislation, authorizing a state health laboratory, health certificates for marriage, the sterilization of habitual criminals, medical supervision of schools, the employment of a sanitary engineer by the State Board of Health, and some amendments to the state medical practice act.

In New York the secretary of the State Department of Health has taken the position that the health laws should be thoroughly revised, and that a sanitary code should be prepared. Among other changes suggested are the broadening of the powers of the State Department of Health, proper compensation for health officers, the employment of expert assistants, revision of the present law for the registration of tuberculosis, supervision of local health departments by the State Department of Health, medical supervision of schools and the registering and licensing of midwifes. Revision of the state coroners' law is also proposed.

In Ohio the study of occupational diseases has been proposed by the State Board of Health and the labor organizations. A sterilization law and a law providing for the medical

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supervision of schools are also proposed. It is reported that an optometry bill will be introduced.

In Pennsylvania an amendment to the new medical practice act adopted at the last session of the legislature is proposed, raising the educational requirements and authorizing the examining board to substitute practical for written examinations in certain cases.

In South Carolina the women of the state have taken up a campaign for medical supervision of schools, and have drafted a bill providing for such inspection.

In South Dakota the Graduate Nurses' Association is planning to present a bill requiring the licensing of registered nurses.

A new medical practice act, a vital statistics law and a law creating a public health laboratory are planned in Tennessee.

In Utah the state board of medical examiners has asked for an appropriation of $2,500 for the prosecution of fakers and swindlers who are preying on the public.

From Wisconsin, in which state resides the national council for the Chiropractor's Association, comes the cheering news that a bill creating a state board to examine and license chiropractors will be presented in every state legislature which meets this winter.

It is the desire of THE JOURNAL to present to its readers from time to time a summary of legislative developments in each state during the legislative season. Any information regarding the introduction or passage of any bills on public health topics will be welcome, and will be used for the information of readers.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ILLINOIS: Coliseum Annex, Chicago, January 22-24. Sec., Dr. James A. Egan, Springfield.

KANSAS: National Hotel, Topeka, February 11. Sec., Dr. H. A. Dykes, Lebanon.

MISSOURI: St. Louis, February 24-26. Sec., Dr. Frank B. Hiller, State House, Jefferson City.

NEBRASKA: Lincoln, February 12-13. Sec., Dr. C. P. Fall, Beatrice.

NEW YORK: January 28-31. Chief of Examinations Division, Mr. Harlan H. Horner, Department of Education, Albany.

THIRD CLASSIFICATION OF MEDICAL COLLEGES OF THE UNITED STATES

This classification was made following the third inspection of medical colleges by the Council on Medical Education, and is published in accordance with instructions from the House of Delegates of the American Medical Association.

Basis of the Classification

The following outline of the essentials of an acceptable medical college was issued by the Council on Medical Education of the American Medical Association for its suggestive value in the rapid development in progress among the medical colleges in the United States. It also represents the basis on which medical colleges are rated in the Council's classifications (revised to Jan. 15, 1913).

1. A strict enforcement of all standards and requirements, the college itself to be held responsible for any instances in which they are not enforced.

2. A requirement for admission of at least a four-year-high-school education superimposed on eight years of grammar school work as defined by the College Entrance Examination Board (see schedule).

3. Beginning Jan. 1, 1914, the minimum requirement for admission will be enlarged to include at least one year's college work in physics, chemistry and biology and a reading knowledge of at least one modern language besides English, preferably German or French.

4. A requirement that students be in actual attendance in the college within the first week of each annual session and thereafter.

5. That actual attendance at classes be insisted on except for good cause, such as for sickness, and that no credit be given under any circumstances for less than 80 per cent. of attendance on each course.

6. That advanced standing be granted only to students of other acceptable colleges and that in granting advanced standing there shall be no discrimination against the college's full-course students.

Standard High-School Course

SCHEDULE OF SUBJECTS OFFERED IN ACADEMIC AND SECONDARY SCHOOLS, CREDITS IN WHICH ARE ACCEPTABLE FOR ENTRANCE TO MEDICAL COLLEGES

Based on the requirements of the College Entrance Examination Board.

SUBJECTS	UNITS.	REQUIRED.	ELECTIVE.
ENGLISH			
Reading and Practice	2	2	...
Study and Practice	1	...	1
MATHEMATICS			
Algebra to Quadratics	1	1	...
Algebra (Quadratic Equations, Binomial Theorem and Progressions)	½	...	½
Plane Geometry	1	1	...
Solid Geometry	½	...	½
Trigonometry	½	...	½
LATIN			
Grammar and Composition	1	1	...
Caesar	1	1	4
Cicero	1	...	1
Virgil	1	...	1
Cornelius Nepos	1	...	1
Greek			
Grammar and Composition	1	*	1
Xenophon	1	...	1
Homer	1	...	1
German			
Elementary	2	**	2
Intermediate	1	...	1
French			
Elementary	2	**	2
Intermediate	1	...	1
Spanish			
Elementary	2	**	2
HISTORY			
United States History	1	1	...
Greek and Roman History	1	...	1
Medieval and Modern	1	...	1
English	1	...	1
SCIENCE †			
Botany and Zoology, each or Biology	½	...	½
Chemistry	1	...	1
Physics	1	1	...
Physiography	½	...	½
Physiology	½	...	½
Drawing	1	...	1
Music			
Appreciation	1	...	1
Harmony	1	...	1
• Total	34	8	26

A *unit* is the credit value of 36 weeks' work of 5 recitation periods per week, each recitation period to be of not less than 40 minutes.

Required Branches: Of the 14 units of high-school work it is suggested that the subjects in capitals aggregating 8 units be required. Other work to the amount of at least 6 units may be made up from any of the other subjects of the above schedule.

* Two units of Greek may be substituted for the two required units of Latin.

** A reading knowledge of German, French or other modern language is recommended in the high-school courses of students contemplating the study of medicine without higher preliminary qualifications.

† It should be understood that each science course must include laboratory work.

7. Careful and intelligent supervision of the entire school by a dean or other executive officer who holds, and has sufficient authority to carry out, fair ideals of medical education as interpreted by modern demands.

8. A good system of records showing conveniently and in detail the credentials, attendance, grades and accounts of the students.

9. A fully graded course covering four years of at least 32 weeks each, exclusive of holidays, and at least 30 hours per week of actual work; this course should be clearly set forth in a carefully prepared and printed schedule of lectures and classes.

10. Two years of work consisting largely of laboratory work in thoroughly equipped laboratories in anatomy, histology, embryology, physiology, chemistry (inorganic, organic and

physiologic), bacteriology, pathology, pharmacology, therapeutics and clinical diagnosis.

11. Two years of clinical work largely in hospitals and dispensaries, with thorough courses in internal medicine (including physical diagnosis, pediatrics, nervous and mental diseases), surgery (including surgical anatomy and operative surgery on the cadaver), obstetrics, gynecology, laryngology, rhinology, ophthalmology, otology, dermatology, hygiene and medical jurisprudence.

12. As soon as conditions warrant, a fifth undergraduate year should be required which should be spent by the student as an intern in an approved hospital.

13. At least six expert, thoroughly trained professors in the laboratory branches, salaried so that they may devote their entire time to instruction and to that research without which they cannot well keep up with the rapid progress being made in their subjects. These professors should have a definite responsibility in the conduct of the college, and their first and chief interest should be in the training of the medical students. There should also be a sufficient number of assistants in each department to look after the less important details. A suggested assignment of these instructors is (*a*) professor of anatomy, (*b*) professor of physiology, (*c*) professor of pathology and bacteriology and (*d*) professor of physiologic chemistry and pharmacology. The other two might be associate or assistant professors and assigned one to the laboratory course in histology and embryology under the professor of anatomy and the other to the department of pathology and bacteriology.

14. The medical teaching should be of at least the same degree of excellence as obtains in our recognized liberal arts colleges and technical schools.

15. The faculty should be thoroughly organized and, with a few allowable exceptions, should be made up of graduates of institutions recognized as medical colleges and should have had a training in all departments of medicine. They should be appointed because of their ability as teachers and not because they happen to be on the attending staff of some hospital or for other like reasons.

16. The college should own or entirely control a hospital in order that students may come into close and extended contact with patients under the supervision of the attending staff. The hospital should have a sufficiently large number of patients to permit the student to see and study the common variety of surgical and medical cases as well as a fair number in each of the so-called specialties.

17. The college should have easily accessible hospital facilities of not less than 200 patients which can be utilized for clinical teaching (for senior classes of 100 students or less), these patients to represent in fair proportion all departments of medicine.

18. The college should have additional hospital facilities for children's diseases, contagious diseases and nervous and mental diseases.

19. Facilities for at least six maternity cases for each senior student, who should have actual charge of these cases under the supervision of the attending physician. Careful records of each case should be handed in by the student.

20. Facilities for at least 30 autopsies during each college session which are attended and can be participated in by senior students (for senior classes of 100 students or less).

21. A dispensary, or out-patient department, under the control of the college, the attendance to be a daily average of 60 cases (for senior classes of 100 students or less), the patients to be carefully classified, good histories and records of the patients to be kept and the material to be well used.

22. The college should have a working medical library to include the more modern text and reference books with the *Index Medicus* and 30 or more leading medical periodicals; the library room should be properly lighted and heated, and easily accessible to students during all or the greater part of the day; it should be equipped with suitable tables and chairs, and have a librarian in charge.

23. A working medical museum having its various anatomic, embryologic, pathologic and other specimens carefully prepared, labeled and indexed so that any specimen may be easily found and employed for teaching purposes. It is suggested that so far as possible with each pathologic specimen coming from post-mortems there also be kept the record of the post-mortem, the clinical history of the patient on whom the autopsy was held and microscopic slides showing the minute structures of the disease shown in the gross specimen.

24. There should be sufficient dissecting material to enable each student individually to dissect at least the lateral half of the human cadaver; to provide cross-sections and other demonstration material and to allow of a thorough course for each senior in operative surgery on the cadaver.

25. A supply of such useful auxiliary apparatus as a stereopticon, a reflectoscope, carefully prepared charts, embryologic or other models, manikins, dummies for use in bandaging, a Roentgen-ray and other apparatus now so generally used in medical teaching.

26. The college should show evidences of thorough organization and of reasonably modern methods in all departments and evidences that the equipment and facilities are *being intelligently used* in the training of medical students.

27. A clear statement of the college's requirements for admission, tuition, time of attendance on the classes, sessions, courses offered and graduation should be clearly set forth, together with complete classified lists of its matriculants and latest graduating class in regular annual catalogues or announcements.

DEFINITIONS OF A MEDICAL COLLEGE AND A MEDICAL SCHOOL

"An institution to be ranked as a medical college[1] must have at least six (6) professors giving their entire time to medical work, a graded course of four full years of college grade in medicine, and must require for admission not less than the usual four years of academic or high-school preparation, or its equivalent, in addition to the preacademic or grammar school studies."

By a medical school[2] as differentiated from a medical college is meant a part of a university requiring for admission the equivalent of two years of collegiate work and offering instruction of not less than two years' duration, leading to the degree of Doctor of Medicine.

Grading of Medical Colleges

In a similar manner as in the previous classifications, all medical colleges have been rated by the Council on Medical Education on a civil service basis on a scale of 1,000 points. The data relating to each college were grouped under ten general heads in such manner that the groups would have as nearly equal weight as possible, each group, allowing a possible 100 points (10 per cent.) out of a possible 1,000 points (100 per cent.). The ten heads under which the data were arranged are as follows:

1. Showing of graduates before state boards and other evidences of the training received.
2. Enforcement of a satisfactory preliminary educational requirement, granting of advanced standing and the character of records.
3. Character of curriculum, grading of course, length of session, time allowed for matriculation and supervision.
4. Medical school buildings; light, heat, ventilation, cleanliness.
5. Laboratory facilities and instruction.
6. Dispensary facilities and instruction.
7. Hospital facilities and instruction, maternity work, autopsies, specialties.
8. Faculty, number and qualifications of trained teachers, full-time instructors, and assistants, especially of the laboratory branches, organization, and extent of research work.
9. Extent to which the school is conducted for properly teaching the science of medicine rather than for the profit of the faculty directly or indirectly.
10. Possession and use made of libraries, museums, charts, stereopticons, etc.

Colleges receiving a rating of 70 per cent. or above in each and all of the ten divisions of data were included in Class A+; colleges receiving an average of 70 per cent. or above, but which received a rating below 70 per cent. in one, two or three

1. This definition of a college is based on that given in the revised ordinances of the state of New York. It has been adopted as a standard also by the Carnegie Foundation for the Advancement of Teaching.

2. Based on the definition of the term "school" adopted in 1909 by the Association of American Universities.

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of the divisions were included in Class A; colleges receiving an average of between 50 and 70 per cent. and colleges having an average of above 70 per cent., but which received a rating below 70 per cent. in more than three of the divisions above named were included in Class B, and colleges receiving less than 50 per cent. were included in Class C. In other words, Class A+ colleges are those which are acceptable; Class A those which need improvement in certain respects, but which are otherwise acceptable; Class B, those which, under their present organization, might be made acceptable by general improvements, and Class C, those which require a complete reorganization to make them acceptable.

Classified List of Colleges

CLASS A PLUS—ACCEPTABLE MEDICAL COLLEGES

1. *Giving an acceptable four-year course:*

CALIFORNIA

Leland Stanford Junior Univ., Dept. of Med....San Francisco
Univ. of California, Med. Dept.....San Francisco-Los Angeles

CONNECTICUT

Yale Medical School.....New Haven

ILLINOIS

Northwestern University Medical School.....Chicago
Rush Medical College (University of Chicago).....Chicago

INDIANA

Indiana University School of Med...Bloomington-Indianapolis

IOWA

State University of Iowa, College of Medicine.....Iowa City

LOUISIANA

Tulane University of Louisiana, Med. Dept.....New Orleans

MARYLAND

Johns Hopkins University Medical Department.....Baltimore

MASSACHUSETTS

Harvard Medical School .....Boston

MICHIGAN

University of Michigan, Dept. of Med. and Surg....Ann Arbor

MINNESOTA

University of Minnesota, Coll. of Med. and Surg...Minneapolis

MISSOURI

Washington University Medical School.....St. Louis

NEW YORK

Columbia University Coll. of Phys. and Surgs..New York City
Cornell University Medical College.....New York City
University and Bellevue Hospital Med. Coll....New York City
Syracuse University, College of Medicine.....Syracuse

OHIO

Ohio-Miami Med. Coll. of the Univ. of Cincinnati....Cincinnati
Western Reserve University Medical Department....Cleveland

PENNSYLVANIA

University of Pennsylvania, Dept. of Medicine...Philadelphia

TEXAS

University of Texas, Department of Medicine.....Galveston

VIRGINIA

University of Virginia, Department of Med....Charlottesville

2. *Giving a two-year course acceptably:*

MISSOURI

University of Missouri, School of Medicine.....Columbia

WISCONSIN

University of Wisconsin, College of Medicine.....Madison

CLASS A.—COLLEGES LACKING IN CERTAIN RESPECTS BUT OTHERWISE ACCEPTABLE

1. *Giving a complete four-year course:*

ALABAMA

University of Alabama, School of Medicine.....Mobile

COLORADO

University of Colorado, School of Medicine....Boulder-Denver

DISTRICT OF COLUMBIA

Georgetown University School of Medicine.....Washington
George Washington University, Dept. of Medicine..Washington

ILLINOIS

College of Physicians and Surgeons.....Chicago

IOWA

Drake University College of Medicine.....Des Moines

KANSAS

University of Kansas, School of Medicine...Lawrence-Rosedale

KENTUCKY

University of Louisville, Medical Department.....Louisville

MAINE

Medical School of Maine.....Brunswick-Portland

MARYLAND

College of Physicians and Surgeons.....Baltimore
University of Maryland, School of Medicine.....Baltimore

MASSACHUSETTS

Boston University School of Medicine.....Boston
Tufts College Medical School.....Boston

MICHIGAN

University of Michigan, Homeopathic College.....Ann Arbor

MISSOURI

St. Louis University School of Medicine.....St. Louis

NEBRASKA

University of Nebraska, College of Medicine...Lincoln-Omaha

NEW HAMPSHIRE

Dartmouth Medical School.....Hanover

NEW YORK

Albany Medical College.....Albany
New York Homeo. Med. Coll. and Flower Hosp..New York City
University of Buffalo, Medical Department.....Buffalo

OHIO

Starling-Ohio Medical College.....Columbus

OREGON

University of Oregon, Medical Department.....Portland

PENNSYLVANIA

Hahnemann Medical College and Hospital.....Philadelphia
Jefferson Medical College.....Philadelphia
Medico-Chirurgical College of Philadelphia.....Philadelphia
Woman's Medical College of Pennsylvania.....Philadelphia
University of Pittsburgh, Medical Department.....Pittsburgh

TENNESSEE

Vanderbilt University, Medical Department.....Nashville

VERMONT

University of Vermont, College of Medicine.....Burlington

VIRGINIA

Medical College of Virginia[3].....Richmond
University College of Medicine[3].....Richmond

2. *Giving a two-year course:*

MISSISSIPPI

University of Mississippi, Medical Department.....Oxford

NORTH CAROLINA

University of North Carolina, School of Medicine..Chapel Hill
Wake Forest College, School of Medicine.....Wake Forest

NORTH DAKOTA

University of North Dakota, College of Medicine...University

SOUTH DAKOTA

University of South Dakota, College of Medicine....Vermilion

UTAH

University of Utah, School of Medicine.....Salt Lake City

3. It is reported that a merger of these schools has been definitely arranged.

CLASS B.—COLLEGES NEEDING GENERAL IMPROVEMENTS TO BE MADE ACCEPTABLE

1. *Giving a complete four-year course:*

ALABAMA

Birmingham Medical College[4] ..... Birmingham

ARKANSAS

University of Arkansas, Medical Department ..... Little Rock

CALIFORNIA

College of Physicians and Surgeons ..... Los Angeles
Hahnemann Medical College of the Pacific ..... San Francisco
Oakland College of Medicine and Surgery ..... Oakland

GEORGIA

University of Georgia, Medical Department ..... Augusta
Atlanta College of Physicians and Surgeons ..... Atlanta
Atlanta School of Medicine ..... Atlanta

ILLINOIS

Bennett Medical College ..... Chicago
Chicago College of Medicine and Surgery ..... Chicago
Hahnemann Medical College and Hospital ..... Chicago

KANSAS

Kansas Medical College[5] ..... Topeka

MICHIGAN

Detroit College of Medicine ..... Detroit

MISSOURI

University Medical College[6] ..... Kansas City

NEBRASKA

John A. Creighton Medical College ..... Omaha

NEW YORK

Fordham University, School of Medicine ..... New York City
Long Island College Hospital ..... Brooklyn

OHIO

Eclectic Medical College ..... Cincinnati

OKLAHOMA

State Univ. of Okla., School of Med. ..... Norman-Oklahoma City

PENNSYLVANIA

Temple University, Department of Medicine ..... Philadelphia

TENNESSEE

University of Tennessee, Medical Department ..... Memphis

TEXAS

Baylor University College of Medicine ..... Dallas

2. *Giving a two-year course:*

WEST VIRGINIA

West Virginia University College of Medicine ..... Morgantown

CLASS C.—COLLEGES REQUIRING A COMPLETE REORGANIZATION TO MAKE THEM ACCEPTABLE

CALIFORNIA

California Eclectic Medical College ..... Los Angeles
College of Physicians and Surgeons ..... San Francisco
College of Medical Evangelists ..... Loma Linda

GEORGIA

Georgia College of Eclectic Medicine and Surgery ..... Atlanta
Southern College of Medicine and Surgery[7] ..... Atlanta

ILLINOIS

Hering Medical College[8] ..... Chicago
Jenner Medical College ..... Chicago

MARYLAND

Maryland Medical College[9] ..... Baltimore

MASSACHUSETTS

College of Physicians and Surgeons[10] ..... Boston

MISSOURI

American Medical College ..... St. Louis
Eclectic Medical University[11] ..... Kansas City
Ensworth Medical College ..... St. Joseph
Kansas City Hahnemann Medical College ..... Kansas City
St. Louis College of Physicians and Surgeons ..... St. Louis

NEBRASKA

Cotner University Medical College ..... Lincoln

NEW YORK

Eclectic Med. Coll. of the City of New York[12] ..... New York City
New York Med. Coll. and Hosp. for Women ..... New York City

NORTH CAROLINA

North Carolina Medical College ..... Charlotte

OHIO

Cleveland-Pulte Medical College ..... Cleveland
Toledo Medical College ..... Toledo

OREGON

Willamette University Medical Department ..... Salem

SOUTH CAROLINA

Medical College of the State of South Carolina ..... Charleston

TENNESSEE

Lincoln Memorial University, Medical Department ..... Knoxville

TEXAS

Fort Worth School of Medicine ..... Fort Worth
Southern Methodist University Medical Department ..... Dallas

WISCONSIN

Milwaukee Medical College[13] ..... Milwaukee
Wisconsin College of Physicians and Surgeons[14] ..... Milwaukee

MEDICAL SCHOOLS FOR THE COLORED RACE

CLASS A

Howard University, School of Medicine ..... Washington, D. C.
Meharry Medical College ..... Nashville, Tenn.

CLASS C

Leonard Medical School ..... Raleigh, N. C.
University of West Tennessee, Medical Dept. ..... Memphis, Tenn.

4. When the three classes now enrolled have been graduated this college is to be converted into a postgraduate medical school.
5. This college has voted to close at the end of the present session.
6. Offers only the last two, or clinical, years.
7. Declared not in good standing by the Georgia State Board of Medical Examiners.
8. Declared not in good standing by the Illinois State Board of Health.
9. Reported not recognized by the Maryland State Board of Medical Examiners.
10. This college is reported as not recognized by the Massachusetts Medical Society.
11. Reported not in good standing by the Missouri State Board of Health.
12. Not included in the list of fully registered colleges issued by the New York Education Department, October, 1912.
13. This college is reported to be undergoing reorganization.
14. The entire property of this school is said to have been given over to Marquette University to be developed as an organic department of that university.

Book Notices

INFANT-FEEDING. By Clifford G. Grulee, A.M., M.D., Assistant Professor of Pediatrics at Rush Medical College. Cloth. Price, $3. Philadelphia: W. B. Saunders Company, 1912.

This is the first book in English to present the new Continental thought on infant-feeding. It places before students and the profession the most important points concerning the infant's nutrition and feeding in health and disease. Grulee has followed the European teachers, particularly Czerny and his students, and Finkelstein and his co-workers. His chapters on physiology of the gastro-intestinal tract, and absorption and metabolism, though brief, are to the point and contain the most important facts on the subjects. The chapter on breast-feeding and the nutritional disturbances of the breast-fed infant contains much valuable matter concisely stated. Grulee advocates four-hour intervals for young infants at the breast, and points out that there is no better prophylaxis for overfeeding and colic. In the matter of artificial feeding, he believes in the simple dilution of cow's milk, with the addition of carbohydrates, especially malt-sugar and the various starches. There are excellent directions for the use of albumin milk (*Eiweissmilch*) and its preparation.

The nutritional disturbances of artificially fed infants are classified according to the prevailing German views, namely, those of Czerny and Finkelstein. It is not necessary at this point to discuss the permanency of the classifications as

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presented to us by the German authorities. More extended research along chemical and bacteriologic and pathologic lines may fill in many gaps in our knowledge. For the present, the classification is clinically descriptive of a group of disorders which can be verified by bedside observation. There can be no doubt that the etiologic classification of Czerny permits us to differentiate definitely the injuries which are produced by starch and the nutritional disturbances produced by fat. Similarly we believe that the classification of Finkelstein is borne out by the clinic.

The story of dyspepsia, decomposition and intoxication, as Grulee tells it, is not new; but the description of the symptoms, the etiology and the rational plan of treatment is so detailed and clear that every practitioner recognizes conditions with which he has been familiar for a long time, though adequate explanation was lacking. The description of this group of cases is adequately portrayed in Grulee's book. The exudative and spasmophilic diatheses are explained in terms of their symptomatology and the treatment is given in detail. The book is well written and deserves a wide circulation. Although the author does not mention all the methods of infant-feeding which are employed, nevertheless, we feel that he has made an important contribution, because he has made accessible to students and physicians the results of the valuable researches in nutrition and feeding of infants which have been carried on for the past decade in German clinics.

THE TUBERCULOSIS CLINICS AND DAY CAMPS OF THE DEPARTMENT OF HEALTH. By John S. Billings, Jr., M.D. Paper. Pp. 123, with illustrations. New York City, Department of Health, Monograph Series, No. 2, 1912.

A GUIDE TO SOME OF THE HYGIENIC FEATURES OF NEW YORK CITY, Prepared for the Fifteenth International Congress on Hygiene and Demography. By Charles F. Bolduan, M.D., Assistant to the General Medical Officer. Paper. Pp. 66. New York City, Department of Health, Monograph Series, No. 6, 1912.

TYPHOID FEVER IN NEW YORK, Together with a Discussion of the Methods Found Serviceable in Studying Its Occurrence. By Charles F. Bolduan, M.D., Assistant to the General Medical Officer. Paper. Pp. 52. New York City, Department of Health, Monograph Series, No. 3, 1912.

THE DIVISION OF CHILD HYGIENE OF THE DEPARTMENT OF HEALTH OF THE CITY OF NEW YORK. By S. Josephine Baker, M.D., Director of Child Hygiene. Paper. Pp. 103. Monograph Series, No. 4, 1912.

New York has probably as efficient a health organization as any city in the United States. Its enterprise is illustrated in the valuable pamphlets issued, covering the work of the various divisions. The pamphlets named above, covering the subjects of child hygiene, typhoid fever, tuberculosis clinics and day camps and a description of the general hygienic features of the city, contain a mass of valuable information. Health departments everywhere may profit by the experience of the health organization in New York and the practical methods developed.

DIAGNOSTIC METHODS: Chemical, Bacteriological and Microscopical. A Text-Book for Students and Practitioners. By Ralph W. Webster, M.D., Ph.D., Assistant Professor of Pharmacological Therapeutics, Rush Medical College. Second Edition. Cloth. Price, $4.50 net. Pp. 682, with 201 illustrations. Philadelphia: P. Blakiston's Son & Co., 1912.

Not much need be added to the two extended reviews of the first edition of this book (THE JOURNAL A. M. A., March 12, 1910, p. 905 and March 19, 1910, p. 1000). In the many new subjects the author has exhibited the same good judgment and judicious attitude, and has been equally clear in description and in the clinical application of methods and findings. Some matter in the former editions has been deleted, and much of the remaining text revised. The book is up to date and is a most satisfactory working exposition of laboratory diagnostic methods.

A MANUAL OF PERSONAL HYGIENE. Proper Living on a Physiologic Basis. By American Authors. Edited by Walter L. Pyle, A.M., M.D., Ophthalmic Surgeon to Mount Sinai Hospital. Fifth Edition. Cloth. Price, $1.50 net. Pp. 516, with illustrations. Philadelphia: W. B. Saunders, 1912.

To the fifth edition of this book has been added a chapter on food adulteration. Simple tests are given for the detection of such adulteration. The remainder of the text has been revised, and the book is in consequence still better adapted than former editions for the instruction of the intelligent layman in the essentials of hygiene and right living.

Medicolegal

Constitutionality of Board of Health Law

(State vs. Snyder (La.), 59 So. R. 44)

The Supreme Court of Louisiana holds constitutional Act No. 98 of 1906, creating a State Board of Health, requiring it to prepare and promulgate a sanitary code, and making it a penal offense to violate any of the regulations thus to be made by the said board. The court says that the board prepared and promulgated a sanitary code, one of the provisions of which was that "The use of saccharin in any food product is prohibited." The defendant, who was prosecuted, convicted and sentenced for a violation of that provision, challenged its constitutionality on the ground that the legislature could not validly delegate to the State Board of Health the power to declare and provide what conduct should constitute a crime; that the power by which conduct otherwise innocent is made criminal is legislative, and that legislative power for state purposes can be validly exercised only by the legislature itself, and cannot be constitutionally delegated to some subordinate functionary.

The contention would be well founded if it were not for article 296 of the state constitution, reading: "The general assembly shall create for the state, and for each parish and municipality therein, boards of health, and shall define their duties, and prescribe the powers thereof." Here the legislature is authorized to "prescribe the powers" of the board of health. This can only mean to delegate to the board of health such powers as may be deemed to be necessary for efficiently carrying out the purposes for which a board of health is created, and the power most obviously necessary in such a case is that which creates health regulations that shall have the force of laws. And nothing more than this was done in this instance.

Moreover, the sanitary code was properly and sufficiently promulgated when it was done in the manner prescribed by the statute, by being printed in pamphlet form and widely distributed. These regulations of the board of health not being "laws passed by the general assembly," it was not necessary that they be promulgated by publication in the official journal, like statutes. Nor was there a violation of the constitutional provision that "The general assembly shall never adopt any system or code of laws by general reference to such system or code of laws; but in all cases shall recite at length the several provisions of the laws it may enact." That has no application to a case like this, where the legislature has not adopted a system or code of laws, but has made it a penal offense to violate whatever rules necessary for the conservation of the public health the board of health may make; that article is not aimed at anything of this kind.

Judgment of lower court affirmed.

Liability to Cancer May Be Considered as Result of Injuries

(Alley vs. Charlotte Pipe and Foundry Co. (N. C.), 74 S. E. R. 885)

The Supreme Court of North Carolina holds that, in an action for damages for injuries sustained by an employee in having a stream of molten iron strike his foot, set his trousers afire, and seriously burn him, it was not error to permit a physician to state that the character of the plaintiff's wound was such that a sarcoma, or eating cancer, was liable to ensue. The court says that it recognizes the general rule that an expert physician testifying to the consequences of a personal injury should be confined to probable consequences, but in this instance the court does not think the physician indulged in pure speculation. The word "liable" was used by him in the sense of probable, and was doubtless so understood by the jury. The court thinks the evidence competent, also, as tending to prove acute mental suffering accompanying a physical injury. The liability to cancer must necessarily have a most depressing effect on the injured person. Like the sword of Damocles, he knows not when it will fall. The jury thought the plaintiff entitled to $6,000 damages.

Society Proceedings

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION

Twenty-Fifth Annual Meeting, held at Old Point Comfort, Va., Dec. 17-19, 1912

(Concluded from page 152)

Suppurative Pylephlebitis

DR. CHARLES R. ROBINS, Richmond, Va.: In this case I used Van Cott's vaccines. In all, twenty-eight doses were given. These vaccines caused improvement for a time, but finally the patient's abdomen was opened in two places and it was found that the fluid had become purulent. The patient gradually declined and died after an illness of 150 days. Since this malady is usually rapidly fatal, and no plan of treatment has yet effected a cure, treatment along this line probably offers the only hope, and the apparent success of these vaccines at one time in this case was encouraging.

The Embryogenetic Relationships of Tumors of the Kidney, Adrenal and Testicle

DR. LOUIS B. WILSON, Rochester, Minn.: Renal Tumors: Of ninety-two tumors studied, there were three pelvic papillomas, four carcinomas, one squamous-celled epithelioma, one adenoma, one fibroma, seven sarcomas, one wolffian tumor, three embryomas (Wilms' tumors) and seventy-one mesotheliomas. The renal pelvic papillomas and carcinomas apparently arise secondarily to chronic irritative processes of the adult pelvic epithelium. The rare squamous-celled epithelioma probably is a neoplastic development from the embryonic inclusion within the renal pelvis of ectoderm which has found its way into the lower end of the primitive excretory duct by way of the cloaca. The embryomas of the renal cortex composed of renal and other tissues and occurring in young children are, according to Wilms, derived from inclusions of the lateral embryonic plate within the caudal portion of the nephrogenic cord in the early embryo. The most numerous tumors of the renal cortex, the so-called hypernephromas or grawitzian tumors, are apparently mesotheliomas derived from nephrogenic vesicles which have failed in the early embryo to form a tubular connection with the renal pelvis. Most of the few true sarcomas of the kidney develop primarily in adult tissue of the renal capsule and involve the cortex secondarily. The renal cortex is also frequently the site of inclusions from the mesonephros and rarely of inclusions from the adrenal gland. Rarely, if ever, do either of these inclusions in the renal cortex form malignant tumors.

Adrenal Tumors: Of three primary tumors of the adrenal studied, one was an adenoma and the other two hypernephromas of the adrenal cortex. Primary malignant tumors of the adrenal are either round-celled sarcomas or more frequently hypernephromas arising from the adrenal cortex. Adrenal hypernephromas frequently induce abnormalities of sex and strength. Tumors of the adrenal, in whatever stage of their development, bear no histologic resemblance to most mesotheliomas (so-called renal hypernephromas).

Testicular Tumors: Of twenty-one tumors of the testicle, all of the ten which it was possible to study in histologic detail were teratomas. So far as can be determined, the history and histology of these nineteen cases are in harmony with Ewing's hypothesis that teratomas of the testicle arise from sex cells whose normal development has been suppressed. The difference in time of development of the embryonic crop of genitaloid cells and the next generation which appears at puberty may account for variations in structure and tempo of the testicular teratomas.

Fat Hernia

DR. JOSEPH RANSOHOFF, Cincinnati: According to my conception, certain characteristics accompany the primary fat hernia. 1. A true fat hernia is a protrusion of a preperitoneal fat mass or lipoma through one of the ordinary hernial apertures. It follows the course pursued by an ordinary hernia. 2. When a peritoneal process is found within such a hernia, it is always difficult to find, because of its small lumen. Such a process, when present, in a minority of cases, is secondary to the fat hernia and probably results from traction. The ordinary contents of a hernia are not found and can hardly enter into the narrow serous tube within the fat mass. 3. The onset of a fat hernia may be sudden, like that of the ordinary type of hernia with preformed sac. In three cases recorded the history of sudden onset was very clear and the proportion of cases too large to be charged to inaccuracy of observation on the part of the patient. 4. The diagnosis of fat hernia is far from easy. Although not reducible, they are capable of a seeming reduction in a fair proportion of cases. 5. An impulse on coughing can usually be obtained, since the hernia can receive the brunt of the increase of intra-abdominal pressure like an ordinary reducible hernia. 6. In very rare instances symptoms of strangulation may result from torsion of the fat hernia. 7. The treatment of fat hernia differs in no way from that of the ordinary type. It is probable that these cases will not be recognized as fat hernias until the operation; therefore measures for radical cure will be instituted such as those in vogue for the ordinary forms of hernia.

Head Injuries

DR. AP MORGAN VANCE, Louisville: CASE 1.—The patient, twelve years before operation, was struck on the head with a shovel; epilepsy followed. Operation, twelve years later at site of injury, consisted of the removal of a good-sized button, resulting in complete recovery. There were no further epileptic seizures. The patient died of pneumonia ten years later.

CASE 2.—The patient, aged 45, became paralyzed two days before operation, and gradually lapsed into complete coma and developed paralysis, beginning on the left side and extending to the whole body, including the face. Sensation on the left side was entirely absent, and greatly diminished on the right. Bowels and bladder were paralyzed; eye reflexes absent. When the scalp had been shaved, the head showed a curious condition. The whole scalp was edematous and the right half presented the appearance of an angioma, the veins were so greatly dilated. A piece of bone the size of a 10-cent piece was removed, and the opening then enlarged to the size of a half dollar. The dura was incised, the brain explored with suction needle, and half an ounce of fluid obtained. The wound was closed without drainage. Complete recovery ensued. This condition closely resembled what is designated by two or three authors as "wet brain." I believe it was really a case of obstruction of the venous return at the base, and that the decompression operation caused the brain to resume its work.

CASE 3.—Boy, aged 10; head injury in street-car accident. Scalp torn from both sides of the skull. Loss of the parietal bone. Scalp cleaned, parts adjusted and separate dressings applied. Twelve days later with the patient in good condition, another physician was called to soak the dressing off, which I had declined to do. The uncovered meninges became infected and the boy died three days later.

CASE 4.—Injury of the skull in the right parietal region, patient being struck on the head by a baseball. Decompression operation nine weeks later, with removal of a good-sized button. Complete recovery with no recollection on the part of the patient of the accident.

CASE 5.—Boy, aged 10, sustained extensive compound, comminuted fracture of the skull. The mastoid region and the area back of and above the ear were crushed. Operation consisted of removal of several pieces of bone, the scalp being sutured without drainage. Complete recovery.

CASE 6.—Epilepsy, with loss of speech and power of locomotion following an injury to the head. Examination revealed depression over the left brow and temporal region. Operation consisted of removal of a large piece of bone with subsequent drainage, followed by complete recovery.

CASE 7.—Pistol wound at the junction of the frontal with the parietal bone, large enough to admit one's thumb. Operation consisted of removal of fracture with some brain matter as well as fragments of bullet, followed by complete recovery.

CASE 8.—Pistol wound through the roof of mouth, a little anterior to the junction of the soft with the hard palates, the bullet going entirely through the brain. No operative measures

were carried out at this time. Mouth was sprayed with antiseptic fluids and liquid nourishment given. At the end of six weeks the bullet was removed together with several pieces of the skull. This was followed by complete recovery.

Surgery of the Single and Horseshoe Kidney

DR. CHARLES H. MAYO, Rochester, Minn.: Among thirty-six cases of gross renal and ureteral anomalies observed in our clinic during five years, seven were found incidentally to other abdominal operations, twelve were of the horseshoe type and six of the single or asymmetric type. Of 649 operations on the kidneys and ureters during this period of five years, there was an average of one serious anomaly associated with the disease in every twenty-six cases. In the horseshoe form 90 per cent. are fused at the lower pole. At the point of union there may be only connective tissue (in 15 per cent. of the cases). Usually the fusion consists of renal tissue and varies from a small area to the full width and thickness of the kidney. Ninety per cent. of cases are fused in front of the great vessels. The most common disease affecting horseshoe kidney is hydronephrosis, which may later develop into pyonephrosis. This hydronephrosis occurs in moderately young individuals, while pyonephrosis and lithiasis are usually seen in middle age or later. Tuberculosis is rarely seen. More horseshoe kidneys are found in women than in men, and more single kidneys in men than in women. When the kidneys are fused by heavy renal tissue, symptoms may undoubtedly be present. Despite the diagnostic data which have been given, as a rule the condition will not be recognized before operation. Braasch indicates, in addition to the cystoscope and skiagram, the great assistance of pyelography with colloidal silver injections. The lesson to be learned, when we do not have absolute data as to the condition of both kidneys, is always to explore the other kidney, usually through a separate incision, before the removal of a tumor of the kidney or the removal of a diseased kidney. In abdominal surgery, when the type of the presenting tumor is questionable, the kidneys should be palpated before removal of the tumor. In some instances transperitoneal incision is indicated. The lateral incision described by W. J. Mayo will suffice in most cases. At operation the possibility of horseshoe kidney must be kept in mind, especially whenever difficulty is experienced in delivering the lower pole. This occurred in my last case, in which pyonephrosis of half of the horseshoe kidney was present. The renal tissue, nearly the size of the normal kidney, passed in front of the large vessels. After examination of the blood-supply, the fused portion was divided and sutured with catgut.

Pseudoperitoneal Cauls of the Colon

DR. JOHN WESLEY LONG, Greensboro, N. C.: We often use inexact terms in speaking of the membranous formations found about the colon. The term "pseudoperitoneal caul" is descriptive and withal correct. "Caul" means a thin serous membrane, and is especially applied to peritoneal membranes as the layers forming the great omentum. The membranes in question are evidently of peritoneal origin and by the testimony of the majority of writers they are a new formation, therefore pseudo; hence the term, "pseudoperitoneal caul of the colon." There are four chronic conditions found in the right iliac fossa, namely, chronic appendicitis, Lane's kink, Jackson's membrane and cecum mobile, all of which have much in common as to etiology, pathology and symptom-complex, and are difficult to differentiate clinically. I believe the pseudoperitoneal cauls of the colon to be largely of infectious origin, though I do not deny the influence of developmental errors, splanchnoptosis and intestinal stasis.

Pancreatic Cysts

DR. LOMAX GWATHMEY, Norfolk, Va., reported a case of cysts of the pancreas and said: The fluid content from the large cyst showed considerable detritus, few degenerated epithelial cells and leukocytes, and no cholesterin crystals. The small cysts showed a few degenerated epithelial cells. Attempts to cultivate the organism from the cyst contents were futile. These cysts present one or two interesting features. The fluid in the large cyst was entirely different from that in the smaller cysts, the difference being due to a hemorrhage or hemorrhages that took place in the large cyst. The smaller cysts were lined by epithelium, while in the large cyst not a vestige of epithelium could be found. The large cyst was evidently lined by epithelium, but this epithelium must have suffered autodigestion. The cyst was at one time uniformly colloid. A hemorrhage or hemorrhages took place in the large cyst, which caused the difference in the cyst contents and which produced some trauma to the epithelium of the cyst wall, thereby allowing the ferments in the cyst contents to digest the epithelial lining.

So lax was the abdominal wall after the removal of the tumor that the appendix was removed without difficulty through the same incision. It contained an extremely large appendolith in the tip and was actively inflamed. Old and fresh adhesions in the pelvis were broken up, adherent coils of small intestine removed from the culdesac, and the sigmoid properly placed in the pelvis. The kidneys, liver, gall-bladder and ducts, the pancreatic head and other abdominal organs were found normal. The wound was closed without drainage. The convalescence was smooth and uneventful, and the patient left the hospital in nineteen days to go to her home in Chicago. A recent letter, six months since her operation, reports her in excellent health, much better than she had ever before experienced.

DISCUSSION

DR. RANDOLPH WINSLOW, Baltimore: Did you remove several gallons or quarts of fluid?

DR. GWATHMEY: About six or eight quarts.

DR. RUFUS B. HALL, Cincinnati: Several years ago I reported to this association an operation for pancreatic cyst. In that case the cyst evidently arose from trauma. The man was lifting and injured himself. He came to operation five or six months after injury with an enormous tumor in his abdomen, which held more than two and a half gallons of fluid. I simply drained the cyst and stitched it to the abdominal wall. The man died from inanition the seventeenth day after the operation.

DR. JOSEPH RANSOHOFF, Cincinnati, reported five cases of pancreatic cyst in which he had operated.

WESTERN SURGICAL ASSOCIATION

Twenty-Second Annual Meeting, held at Cincinnati, Dec. 20-21, 1912

(Continued from page 150)

Gunshot Wounds of the Abdomen

DR. MAURICE KAHN, Leadville, Colo.: Of forty-one cases of gunshot wounds seen in civil practice, thirteen (31 per cent.) were of the head, eight (19 per cent.) of the chest, and thirteen (31 per cent.) of the abdomen. I maintain that the soft tissues of the abdomen are incapable of deflecting a bullet, so that a bullet must traverse that cavity in the straight line of its projection. On account of the danger of hemorrhage, and the rapid absorption in the upper abdomen, I also combat the universal belief that wounds of the lower abdomen are attended with a higher mortality-rate than are those of the upper abdomen. Despite the fact that army statistics show that conservative treatment is the more successful in war, and that it is possible for a bullet to traverse the abdominal cavity without visceral perforation, nevertheless in every case of penetration of the abdomen by a bullet, multiple perforations of the viscera are to be assumed and prompt surgical exploration is demanded. The symptoms usually mentioned are not those of perforation, but are signs of hemorrhage or peritonitis. Needlessly long incisions, evisceration, rough handling of the intestine and long exposure are to be condemned; much time, however, may be wasted by attempting a thorough search through an insufficient opening; therefore I always make an opening large enough to permit rapid work regardless of its length. Also, in the presence of an abdomen full of blood, I turn out intestines abundantly to expedite finding the source of the hemorrhage, which, if profuse, arises from the solid viscera, mesentery, omentum or large vessels, as wounds of the hollow viscera bleed but

slightly. Trimming the bruised edges of intestinal wounds is unnecessary, as the edges can be safely infolded, and requires time, which may be of great import. On account of the tonically contracted bowel, care should be exercised that the bite of the suture is no deeper than is intended. Thorough exploration for distant perforations is urged, as many patients have been lost by the surgeon's neglecting to repair all wounds. The general principles governing drainage in abdominal conditions will determine one's procedure in a given case. When in doubt it is safer to drain. In thirteen cases, seven operations were performed. Excluding one, which involved the thorax and abdomen, and which terminated fatally as the result of secondary pulmonary hemorrhage, there remain six abdominal cases with intestinal perforations in which operation was performed within eight hours of the accident; five patients recovered and one died, a mortality of 17 per cent.

DR. W. W. GRANT, Denver: If we know the points of entrance and exit of the bullet we can tell with some degree of accuracy the course it has pursued; but often there is no exit; the bullet is lodged in the body; under these circumstances and conditions we can locate the bullet by means of skiagraphy, and knowing its entrance, even if we do not know its exit, we will know pretty well what course it has pursued, and this can often be done within an hour or two. It is a fact that after about four hours the mortality from these wounds without operation steadily increases. Therefore operation in every case of wound from a bullet should be undertaken. If there has been no wound of the intestine or stomach, the patient will not die from an exploratory operation. The first consideration is hemorrhage and not extravasation, because it is the hemorrhage that produces shock; it is the hemorrhage that produces immediate death, and not peritonitis, so that the first consideration is to stop the hemorrhage.

Transplantation of Tissues

DR. L. L. MCARTHUR, Chicago: Given the appropriate conditions, any tissue may be transplanted, the difficulties increasing with the vascularity rather than the complexity of the structure; those structures requiring the least circulation prove the more successfully grafted. Fat is a tissue made up of a delicate living reticulum, stored with an enormously disproportionate amount of fatty globules. For its existence and maintenance it requires little else than plasma and asepsis under body conditions. Hence it can be transplanted free and in almost any bulk, provided that these conditions are maintained. For this reason we may now look to see the cavities in bones filled by pads of living fatty tissue taken elsewhere from the patient instead of with Mosetig-Moorhof's plug or Beck's paste. The cosmetic filling out of the deformity left after a partial resection of the lower jaw, has given me most gratifying results. Encouraged by the successful transplantation of this tissue, till recently considered so liable to slough, I have stolen elsewhere from the patient an envelope of fatty fascia to protect the musculospiral nerve just released from the callus of a humeral fracture, or a nerve-trunk just sutured after resection for neurofibroma. Again, the hygroma that develops after Murphy's interposition of fatty fascia in a joint need no longer be obtained from a pedunculated flap taken from the immediate neighborhood of the joint, often at the sacrifice of structures essential to a good result and adding a complication to the operation, but may be secured elsewhere. For the ankylotic hip or knee the operation can thus be much simplified.

An Experimental Study of the Therapy of Shock

DR. M. G. SEELIG, DR. J. TIERNEY and DR. F. RODENBAUGH, St. Louis: Henderson's theory of shock is that this symptom-complex is due to a lack of carbon dioxid in the circulating blood. We therefore attempted by direct methods to increase the carbon dioxid content of the blood. For this purpose we introduced intravenously into shocked dogs varying quantities of a molecular (8.4 per cent.) solution of sodium bicarbonate. Sodium bicarbonate is dissociated into sodium carbonate and carbon dioxid by three elements in the blood, namely, serum albumin, hemoglobin and acid sodium phosphate. The quantity of the solution used varied from 5 to 200 c.c., and the condition of the dogs varied from normal to a state of profound shock. An analysis of the results obtained in a large series of experiments on dogs showed that sodium bicarbonate was a powerful blood-pressure-raising salt, the rise in blood-pressure persisting over a fairly long period of time. Likewise, this salt markedly increases amplitude of the heart-beat, though it has no appreciably constant effect on the rate of the heart-beat. The depth of respiration was always increased by the infusions, though the rate of respiration varied within wide limits.

After it had been definitely determined that the above-noted effects were constant, it was attempted to determine by what mechanism the rise of pressure was occasioned. To this end the bulk of fluid injected, the alkalinity of the sodium bicarbonate, the hypertonicity of the solution, and the free carbon dioxid resultant from the injection were studied separately. We conclude that bulk and hypertonicity play a minor rôle in raising the blood-pressure; that alkalinity plays a more important part, but that it seems most probable that some additional undiscovered factor is responsible for the pronounced rise. Whatever this factor is, it seems to act directly on the heart, even when this organ is isolated from its central nervous system relationships. We are not able to attribute any of the pressor effect of the infusions to the increased carbon dioxid content of the blood.

(To be continued)

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Albany (N. Y.) Medical Annals

December, XXXIII, No. 12, pp. 697-746

1 The Child and Fresh Air. H. L. K. Shaw, Albany, N. Y.

American Journal of Diseases of Children, Chicago

January, V, No. 1, pp. 1-88

2 Coagulation Time of Blood in Infants and Children. H. C. Carpenter and J. C. Gittings, Philadelphia.
3 Early Case of Chondrodystrophy with Radiogram and Necropsy. L. E. La Fetra, New York.
4 Methods of Estimating Kidney Function. R. M. Smith, Boston.
5 *Vaccine Therapy of Whooping-Cough. A. Bamberger, Chicago.
6 *Fat and Nitrogen Metabolism in Case of Congenital Absence of Bile-Ducts with Study of Ferments of Pancreatic Secretion and Feces. H. Koplik and B. B. Crohn, New York.
7 Acute Lymphatic Leukemia in Four-Year-Old Boy. A. Strauch, Chicago.
8 Cause of Persistence of Gonorrheal Vulvovaginitis in Children. I. C. Rubin and J. S. Leopold, New York.
9 Wassermann Reaction in Connection with Hereditary Syphilis. L. R. DeBuys, New Orleans.

5. **Vaccine Therapy of Whooping Cough.**—The vaccine Bamberger used was prepared from deep swabbings of the throat of children having pertussis, each cubic centimeter containing 20,000,000 dead organisms. The cultures are plated and replated until a pure culture is obtained; the vaccine is then made from several strains of the bacilli, so that it is polyvalent in character. All of Bamberger's six cases were clinic patients of the poorer class of society, who are less apt to react to this treatment than children of the better class. He used a dosage of 20,000,000 bacteria every other day; no case receiving less than five injections, and none more than fifteen. A daily record of the temperature, pulse and number of paroxysms was kept in all cases, so that he obtained a fairly accurate idea of the effect of the vaccine. The vaccine was injected hypodermically in the gluteal region, the part first washed with soap and water, and then with alcohol. There were no constitutional effects such as fever, rashes, rheumatoid pains, vomiting or malaise during the treatment, and a local reaction, as a few small blisters at the site of injection, occurred just once in one case. The children ranged in age from 1 to 4 years. The treatment seemed rather to lessen the severity of the disease and shorten complications, than to shorten the duration markedly, although only two of the cases lasted as long as six weeks. The sooner the treatment is begun, the better the results.

6. **Fat and Nitrogen Metabolism in Congenital Absence of Bile-Ducts.**—The nitrogen metabolism in this case of congenital absence of the bile-ducts was normal, but fat metabolism was greatly disturbed, characterized by poor absorption and deficient splitting of neutral fats. The pancreatic ducts were

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patent and the pancreatic secretion was of normal strength. The lipolytic ferment of the pancreas, while present, performed its function weakly on account of the absence of the bile salts, which normally accelerate its enzymatic activity.

American Journal of Medical Sciences, Philadelphia

January, CXLV, No. 1, pp. 1-156

10 Theory and Treatment of Diabetes. C. von Noorden, Vienna, Austria.
11 Extracardiac Causes of Failure of Compensation in Valvular Diseases of Heart. A. Stengel, Philadelphia.
12 Kinetic Theory of Exophthalmic Goiter. G. W. Crile, Cleveland.
13 *Commoner Forms of Renal Disease, with Special Reference to Knowledge of Them Most Useful at Present to General Practitioner. L. F. Barker, Baltimore.
14 Influence of Exercise on Heart. R. T. McKenzie, Philadelphia.
15 Case of Mediastinopericarditis Treated by Cardiolysis (Brauer). A. D. Dunn and J. E. Summers, Omaha, Neb.
16 Relation of Parasitic Amebae to Disease. C. F. Craig, Washington, D. C.
17 Breast Tumors, with Special Reference to Carcinoma. A. Primrose, Toronto.
18 Relief of Gastric Crises in Tabes Dorsalis by Rhizotomy. C. H. Frazier, Philadelphia.
19 Case of Alkaptonuria. H. Baldwin, New York.

13. **Commoner Forms of Renal Disease.**—Leaving out pyelitis, on the one hand, and chronic passive congestion (stasis) of the kidneys, on the other, the forms of renal disease commonly met with by the general practitioner are subdivided by Barker into three great groups. 1. Cases of acute renal disease (or nephropathy), with or without dropsy. 2. Cases of subacute or chronic renal disease (or nephropathy), with true "renal" edema occurring in their course. 3. Cases of chronic renal disease (or nephropathy), without "renal" edema, lasting perhaps for years. The first group of cases are "ten designated as "acute Bright's disease," a scoop-net which includes a large variety of renal diseases histologically and etiologically very different from one another (for instance, embolic purulent nephritis, ascending purulent nephritis, acute glomerulonephritis, acute tubular degenerations, etc.). The second group includes the cases often described as "subacute Bright's disease" or as "chronic parenchymatous nephritis" (large white and large variegated kidney). The third group includes the contracted kidneys, not only the so-called "genuine" or "primarily contracted kidney" but also the so-called "secondary contracted kidney."

From the etiologic side he divides the renal diseases or nephropathies into two great groups: (1) Those due to injuries reaching the kidneys through the blood, the so-called hematogenous or descending nephropathies, and (2) those due to injuries reaching the kidneys through the urine, the so-called urinogenous or ascending nephropathies. The hematogenous nephropathies are, in turn, divided into (a) those which are diffuse and (b) those which are focal. The former are due to soluble toxic substances circulating in the blood, the latter to organized particulate substances, namely bacteria. The diffuse hematogenous nephropathies, due to soluble toxic substances, are further analyzable on the etiologic side, and here it is interesting that the different soluble toxins seem to a certain extent, selective, regarding the particular structures of which the kidney is made up. Thus one set of toxins picks out the epithelial cells of the tubules, another has a selective effect on the glomeruli, and a third group, apparently, on the small arterioles of the organs, especially on the vasa efferentia. Tubular degenerative nephropathy may be due to a whole series of soluble poisons, including corrosive sublimate, phosphorus, potassium bichromate, the poisons produced in the uterus of the pregnant woman, the toxins of cholera, yellow fever and of other acute infections and hemoglobin.

In the following table Barker has tentatively classified the commoner forms of nephropathy, according to their pathology and etiology:

I. Renal Diseases Due to Injuries Reaching the Kidneys Through the Blood (Hematogenous or Descending Nephropathies).
  A. Diffuse hematogenous nephropathies due to soluble toxic substances.
    (a) Tubular degenerative nepropathies (e. g., sublimate kidney; phosphorus kidney; bichromate kidney; pregnancy kidney; hemoglobinuric kidney; kidney of cholera, yellow fever and other acute infections).
    (b) Glomerulonephritis (acute, subacute, chronic), due most often to streptococcus toxins.
      (1) Catarrhal form with desquamation and proliferation of capsular epithelium.
      (2) Intracapillary or thrombosing form of glomerulitis.
    (c) Arteriolar nephropathy (chronic), probably due to action of toxic substances on organ arterioles, causing atherosclerosis of vasa afferentia.
  B. Focal hematogenous nephropathies due to bacteriemias.
    (a) Embolic (purulent) nephritis from streptococcus and staphylococcus.
    (b) Embolic hemorrhage (non-purulent) glomerulonephritis (large red or variegated kidney due to streptococcus viridans).
    (c) Acute interstitial nephritis with lymphocytic exudate after scarlet fever.
    (d) Excretory bacterial nephritis (nephritis papillaris mycotica of Orth) (casts of cocci).
II. Renal Diseases Due to Injuries Reaching the Kidneys Through the Urine (Urinogenous or Ascending Nephropathies).
  (a) Hydronephrotic nephropathy (due to obstruction in urinary passages) depending on renal calculus, ureteral obstruction, prostatic hypertrophy, stricture of urethra, etc., may be unilateral or bilateral.
  (b) Pyelonephritis.
    (1) Pyemic.
    (2) Tuberculous.

The pathogenesis of each of these varieties of renal disease, its symptoms, pathology, diagnosis and therapy are fully discussed by Barker but space forbids a longer abstract. Only one statement will be quoted, namely: Every individual who suffers from sore throat, tonsillitis, or a "bad cold" with fever, should be put to bed, and be kept warm there, until the infection is overcome. Not only would much renal disease be thus avoided, but also many serious diseases of the heart and of the joints. If infections of the tonsils keep recurring, the risk to the kidneys, endocardium and joints is very great; in many cases, it may be wise completely to excise the infected tonsils. Other foci of chronic infection should be watched for, and, if found, removed.

American Journal of Public Health, New York

December, II, No. 12, pp. 909-1012

20 Need for More Accurate Data in Refuse Disposal Work. R. Hering, New York.
21 Refuse Materials. S. A. Greeley, Winnetka, Ill.
22 House Treatment of Refuse. F. M. Hall, Minneapolis.
23 Collection of Municipal Refuse. J. H. Gregory, New York.
24 Systems of Collection and Disposal of Garbage in City of New Orleans. G. S. Smith, New Orleans.
25 Disposal of Municipal Waste by Burial Method. A. M. Compton, Davenport, Iowa.
26 Garbage Piggeries. A. W. Brown, Grand Rapids, Mich.
27 Disposal of Garbage by Reduction Method. I. S. Osborn, Columbus, Ohio.
28 Incineration of Refuse. J. T. Fetherston, New York.

Boston Medical and Surgical Journal

December 26, CLXVII, No. 26, pp. 903-942

29 *Problem of Drunkenness. I. H. Neff, Foxborough, Mass.
30 *Tuberculous Mesenteric Lymph-Nodes Simulating Appendicitis. D. W. Parker, Manchester, N. H.
31 *Idem. F. B. Lund, Boston.
32 Physiology at Harvard Medical School, 1870-1871. W. T. Lusk, Boston.
33 Chronic Alveolar Osteomyelitis (Pyorrhea Alveolaris); Its Causes and Treatment with Vaccines. L. S. Medalia, Boston.
34 Treatment of Pulmonary Tuberculosis by Artificial Pneumothorax, According to Method of Forlanini. G. M. Balboni, Boston.

January 2, CLXVIII, No. 1, pp. 1-36

35 Orthopedic Principles for Use in General Practice. J. W. Sever, Boston.
36 *Six Years' Treatment of Pulmonary Tuberculosis by Class Method. N. K. Wood, Boston.
37 Ptosis in Gynecology. R. M. Green, Boston.
38 Marine Hospital at Berck-Sur-Mer, Principally for Crippled Children. Largest Institution of Its Type in World. D. C. McMurtrie, New York.

29. **Drunkenness.**—In this paper Neff presents as briefly as possible the modern views of inebriety and suggests a workable plan for taking care of these perplexing cases which are so frequently seen in all walks of life. He believes that all inebriates should be removed, at least temporarily, from their customary environment and that non-institutional treatment should supplement institutional care and should be considered as a part of the out-patient medical service of an institution designed for the care of inebriates. It is also his belief that the ultimate solution of the problem of drunkenness is intimately associated with the study of the personality of the inebriate. An institution designed for such a study, scientifically and humanely conducted, should be considered as an educational center offering opportunities for the study of drunkenness from all view-points.

Any method inaugurated for the care and treatment of confirmed drunkenness, to be practical and wide-reaching, Neff says, must recognize certain fundamental starting points, which can be enumerated as follows:

1. A comparatively small percentage of users of alcohol are confirmed drunkards or inebriates.

2. The appropriate care of the alcoholic implies both curative treatment and custodial care; the curative treatment being directed to the case which is likely to be benefited; the custodial, for economic reasons, should be directed to the recidivist, constantly appearing in the courts. Such a differentiation must eventually be made and appropriate segregation of these two types established. The result of his experience Neff expresses as follows: Inebriety is an expression of nervous weakness; founded on this weakness is a habit, which we call drunkenness. The antecedent weakness is either acquired or in the nature of an inborn defect. The nature of this nervous weakness is as yet not accurately defined; it appears to be closely allied to degeneracy and related to the minor functional nervous diseases. The inebriate is, as it were, a sum total of his personality and the symptoms attributable to alcoholism. Inebriety should be considered a disease in the sense above described. The acceptance of this theory implies responsibility on the part of the inebriate, although it admits of extenuating circumstances. There is no known drug which can permanently eradicate the desire for drink. The inebriate is a personal equation, each case a personal problem requiring for its solution individual consideration and treatment. The most obvious needs for the proper constructive treatment of the inebriate are: Sufficient land for agricultural development. Sufficient accommodations for industrial training and workshops. An opportunity for segregation of the diverse types. An opportunity for the treatment of both sexes.

Neff believes that his plan, allowing for the colonization of non-criminal cases of drunkenness, and proper segregation of the types, will facilitate the study of contrasts in cases, and by furnishing opportunity for scientific study, will contribute to medicine and society new and important knowledge for the better study of the problems of drunkenness.

30. **Tuberculous Mesenteric Lymph-Nodes Simulating Appendicitis.**—One of the cases cited by Parker was a case of isolated tuberculosis of mesenteric glands beginning with the symptoms of an acute recurrent appendicitis and progressing along the lines of an intestinal obstruction, although the latter did not appear in the symptoms during the early stages. The disease had caused by direct contact irritation and adhesion to a contiguous loop of bowel with resultant obstruction. In another instance the disease manifested itself in a different phase, that of a slowly developing, moderately severe appendicitis with nothing in the history or symptoms pointing to the true condition. Out of thirty-nine cases reported in the literature, in a very large percentage a diagnosis of acute or chronic appendicitis or ileus was made, and the true condition recognized only after the abdomen had been opened. Because of the rarity of its appearance, the almost absolute lack of all indications of tuberculosis in other parts of the body, especially of the intestines, its peculiar character even in the cases in which a mass is to be plainly felt, a diagnosis can be arrived at only in a conjectural way. Laparotomy is indicated always and the condition found can be dealt with as indicated.

31. **Idem.**—Lund has seen about one dozen cases of tuberculosis of the mesenteric glands with or without a chronic appendicitis. They have all been in children. In only two of these cases have the glands broken down so as to form an abscess. He has been inclined to remove as many of the glands as he could conveniently, being, of course, careful to shell them out without injuring the larger vessels of the mesentery, usually not a difficult procedure and not infrequently an opening is made clear through the mesentery which is easily closed by sutures. Some of the smaller glands lying up near the vena cava and aorta it has not been his practice to remove, only those which are undoubtedly tuberculous. Only in two abscess cases has drainage been necessary. In none of them has there been intestinal obstruction. The patients have all recovered and have been free from symptoms since.

36. **Pulmonary Tuberculosis Treated by Class Method.**—Wood's present paper is based on data taken from the six years' continuous work as the physician-in-charge of the tuberculosis class under the auspices of the Arlington Street Church, Boston. Between the dates May 1, 1906, and May 1, 1912, 113 patients applied for admission to the class; of these, 103 were admitted as members. These 103 patients have been under observation for periods ranging from one month to five and one-half years. Wood has direct personal knowledge of 99 of these 103 cases. Of the 99, 24 are known to be dead, 75 are living. Only 10 per cent. of the patients, who have been chosen for the class, could be considered incipient at entrance. Ninety per cent. were well marked—38 per cent. moderately, and 52 per cent. far advanced. Of the incipient cases, all but one have been arrested or apparently cured. Of the 39 moderately advanced, 28 per cent. have been apparently cured, 30 per cent. arrested, 28 per cent. improved, and 12 per cent. have been progressive or have died. Of the 54 far advanced, 3½ per cent. have been apparently cured, 13 per cent. arrested, 39 per cent. improved, and 44½ per cent. progressive, or have died.

The scope of the class work, Wood says, though small, is larger than appears at first sight, because its influence extends beyond the individual patient and includes his entire family. It is not too special to be practical, since one case in six of an ordinary clinic is suitable for this treatment; and 90 per cent. of the cases treated were advanced. The expense in money is comparatively small; 865 per patient, or $5.95 per patient per month. The expense of energy, though considerable, is not out of proportion to the results obtained. (a) The results show that 72½ per cent. of the patients are living at the end of six years. (b) That this furnishes a means by which patients can be kept under observation for long periods, one to five years. (c) That it cultivates in the patients a spirit of great faithfulness toward the treatment after discharge from the class, which is evidenced by their continuance of out-door sleeping and their marked after-improvement. (d) That a large proportion, 57 per cent. of the cases have returned to useful occupations for an average of 26½ months; and that some cases were able to have their processes arrested without losing a day's work. (e) That the number of deaths has not been discouragingly large, 23½ per cent. in six years. That 50 per cent. or more occurred among those in the class less than three months. It affords relief to persons who would otherwise not be reached. (*a*) The far advanced. (*b*) Those without civic settlement. (*c*) Children. (*d*) Those who under no conditions will leave their homes. For these reasons this method of treatment is entitled to definite recognition. Without it, a valuable aid in the common fight against tuberculosis is lost. Just as the sanatorium teaches the discipline, encouragement and details of treatment to the individual, in like manner does this method act as an object lesson to teach the same essentials in the home amid the routine of daily living.

Delaware State Medical Journal, Wilmington

December, III, No. 13, pp. 1-26

39 Rheumatoid Arthritis, with Exhibit of Cases. J. J. Jones, Wilmington.

Journal of Arkansas Medical Society, Little Rock

December, IX, No. 7, pp. 157-180

40 Cesarean Section and Porro Cesarean Section. W. V. Laws, Hot Springs.
41 Sarcoma of Nasopharynx. R. C. Dorr, Batesville.
42 Open Treatment of Fractures of Long Bones. M. G. Thompson, Hot Springs.
43 Treatment of Pellagra. C. J. March, Fordyce.
44 Roentgen Diagnosis in Medicine. A. M. Zell, Little Rock.

Journal of Experimental Medicine, New York

January, XVII, No. 1, pp. 1-116

45 *Effects of Subdural Injections of Leukocytes on Development and Course of Experimental Tuberculous Meningitis. W. H. Manwaring, New York.
46 Artificial Activation of Growth in Vitro of Connective Tissue. A. Carrel, New York.
47 Nature and Origin of Nitrogenous Compounds in Feces in Infantilism. F. H. McCrudden and H. L. Fales, New York.
48 *Causes of Excessive Calcium Excretion Through Feces in Infantilism. F. H. McCrudden and H. L. Fales, New York.
49 Negri Bodies in Rabies. E. M. Watson, Baltimore.
50 *Growth of Chicken Bone-Marrow in Vitro and Its Bearing on Hematogenesis in Adult Life. N. C. Foot, Munich.
51 *Studies on Ferment Action. VI. Relation of Immune Serum Lipase to Hemolysis. J. W. Jobling and C. G. Bull, Chicago.
52 *Studies of Inorganic Metabolism in Pneumonia, with Special Reference to Calcium and Magnesium. F. W. Peabody, New York.

53 *Absorption of Arsenic Following Intramuscular Injections of Salvarsan and Neosalvarsan. H. F. Swift, New York.
54 *Cultivation of Treponema Calligyrum (New Species) from Condylomata of Man. H. Noguchi, New York.
55 Classification of Streptothrices, Particularly in Their Relation to Bacteria. E. J. Claypole, Berkeley.

45. **Effects of Subdural Injections of Leukocytes.**—Rabbit leukocytes, injected into the basal meninges of dogs, in doses from 0.7 to 1 cubic centimeter, Manwaring found apparently invariably cause death. Horse leukocytes, injected in the same amounts, cause death in about 25 per cent. of the dogs. The injection of foreign leukocytes into the meninges of monkeys causes few if any symptoms. The injection of from 1 to 3 cubic centimeters of horse leukocytes into the meningeal cavities of dogs, simultaneously with the inoculation of the meninges with tubercle bacilli, causes a slight delay in the development of the paralytic symptoms in about half the treated animals. This delay, however, is very slight when compared with the remarkable prolongation of the latent period previously observed after treatment with dog leukocytes. The injection of foreign leukocytes into the meningeal cavities of monkeys has thus far given almost uniformly negative results. In one small group of monkeys, however, inoculated by the method of lumbar puncture, the injection of rabbit leukocytes has been associated with a prolongation of the latent period in one of the treated monkeys and with a complete prevention of the subsequent tuberculosis in a second monkey.

48. **Excessive Calcium Excretion in Infantilism.**—Analyses of the principal known bases and acids of the feces in cases of infantilism in which excessive amounts of calcium are being lost, and comparison with cases which are normal in this respect, showed that the fats, fatty acids and volatile acids are not high, and led the authors to the conclusion that the loss of calcium is not secondary to the presence of large quantities of phosphates, fatty acids, or volatile acids.

50. **Growth of Chicken Bone Marrow in Vitro.**—Foot claims that the development of the polymorphonuclear leukocyte from a mesenchymal, lymphoid type of cell is possible in adult life and *in vitro* in chicken bone marrow. These cells can rapidly proliferate by means of amitotic division of an unripe form very similar to, but smaller than, themselves. All the cells of chicken bone marrow can undergo a transformation to a type of cell resembling, although not proved to be identical with, the cells of connective tissue.

51. **Studies on Ferment Action.**—The specific lipase of immune hemolytic serum, the authors claim, is not necessary for hemolysis, but this does not prove the non-necessity of a lipolytic action in serum hemolysis, since a lipase is always present in the complement serum. Serum lipase is found in the end-piece of split complement. There is a parallelism between the lipase content and complement strength of the sera of different animals (man, rabbit, guinea-pig, sheep, ox, cat).

52. **Inorganic Metabolism in Pneumonia.**—During pneumonia the metabolism of inorganic substances deviates markedly from the normal. While chlorin, sodium and calcium are retained in the body, Peabody found that potassium and magnesium are excreted normally or in excess. Two of his cases showed a definite loss of magnesium to the body in the febrile period. During the period of retention the chlorin content of the blood is distinctly lower than normally, the calcium content is apparently slightly lower, and the magnesium content tends to be a little lower. The skin is shown to play no special part in the chlorin retention. Since no organ or organs have been shown to store up large amounts of the retained substances, it is probable that they are spread diffusely throughout the body.

53. **Absorption of Arsenic.**—Swift says that intramuscular injection of salvarsan and neosalvarsan in rabbits always produces necrosis of the muscles. A much more intense reaction is produced by salvarsan than by neosalvarsan. The rate of absorption of arsenic following intramuscular injections of salvarsan is very slow, while following intramuscular injections of neosalvarsan between 75 and 85 per cent. of the arsenic is absorbed during the first week. The subsequent absorption is quite slow.

54. **Cultivation of Treponema Calligyrum.**—On the surface of genital or anal lesions, either syphilitic or non-syphilitic, Noguchi has occasionally found a spirochete resembling *T. pallidum*, but somewhat thicker than the latter. In general characteristics, this organism occupies an intermediary position between *T. pallidum* and *S. refringens*. The treponema was obtained in pure culture from two cases. For the organism the name of *Treponema calligyrum* is proposed. It is nonpathogenic for monkeys and rabbits. It can be distinguished from pallidum, microdentium, macrodentium, mucosum and refringens either by the morphology, cultural and biologic properties, or all these conditions in combination. Under certain cultural conditions calligyrum becomes thinner and may cause some difficulty of differentiation from a strain of the thick type of pallidum, especially when the latter is grown under conditions which tend to render it thicker. There is no such difficulty when the average and thin types of pallidum are concerned. On the other hand, by providing the calligyrum with conditions which lead to the appearance of thicker specimens and by supplying refringens with conditions of growth that favor the development of individuals that are thinner and more regularly curved, the refringens may be made to resemble the calligyrum in general appearance; but under identical cultural conditions they can be readily distinguished.

Journal of Kansas Medical Society, Kansas City

December, XII, No. 12, pp. 461-506

56 Appendicular Liver. C. C. Neselrode, Kansas City.
57 Dislocation of Lens and Perforation of Cornea. R. S. Magee, Topeka.
58 Rabies. W. T. McDougall, Kansas City.
59 Epistaxis as Met by General Practitioner. J. H. Johnson, Coffeyville.
60 Plea for Uniformity in Drug Standards and for Uniform Requirements in Dispensing. L. E. Sayre, Lawrence.

Journal of Michigan State Medical Society, Battle Creek

December, XI, No. 12, pp. 757-830

61 Acute Heart Failure. E. Boise, Grand Rapids.
62 Uterine Prolapse. J. H. Carstens, Detroit.
63 Abscess in Frontal Lobe of Brain. D. M. Campbell, Detroit.
64 Management of Gonorrheal Rheumatism. F. M. Hartsock and J. L. Robinson, Fort Wayne.
65 Operative Treatment of Fractures. G. H. Palmerlee, Detroit.
66 Chronic Diarrhea as Surgical Symptom. L. J. Hirschman, Detroit.
67 Michigan's Midwife Problem. W. E. Welz, Detroit.

Journal of Nervous and Mental Disease, Lancaster, Pa.

December, XXXIX, No. 12, pp. 793-864

68 *Temporary Paralysis of Right Vocal Cord with Sensory Disturbance on Left Side of Body. D. I. Wolfstein, Cincinnati.
69 *Examination of Cerebrospinal Fluid for Arsenic Following Administration of Salvarsan. C. D. Camp, Ann Arbor, Mich.
70 Dementia Praecox. H. D. Singer, Hospital, Ill.
71 Some Atypical Forms of Tabes and Paresis Considered in Light of Serodiagnosis. C. E. Riggs, St. Paul, Minn.

68. **Temporary Paralysis of Right Vocal Cord.**—Wolfstein's case is of some interest, in that it presented the following symptom-complex: Transitory paralysis of the right vocal cord. Marked disturbance in swallowing at first complete and disappearing in the course of two weeks. A crossed dissociated sensory impairment involving the pain and thermic elements without implication of tactile and muscle sense. Pressure sense was not tested. There was no loss of localization, and stereognosis was intact. Further points of interest were: The rapid onset and rapid subsidence of the symptoms; the apparently strictly circumscribed character of the lesion; the absence of any sensory impairment in the distribution of the fifth nerve on either side, even the first branch showing no involvement. As to the character of the lesion in the case: on this, Wolfstein says, one can only speculate. The man was syphilitic without doubt. There could not have been an embolus or thrombus of the posterior inferior cerebellar artery; the meager symptoms noted and their exceedingly short duration is not consonant with this view. The only lesion which can account for the exceedingly circumscribed effect must have been a very small hemorrhagic focus which was rapidly absorbed.

69. **Examination of Cerebrospinal Fluid.**—Doses of salvarsan up to 0.6 gm., or perhaps more, given intravenously, Camp says, do not ordinarily result in the presence of any arsenic

in the spinal fluid, and that arsenic is present in the spinal fluid practically only when the dose is so large or so frequently repeated as to cause a meningo-encephalitis, which is sometimes of a fatal character. The assumption that the introduction of salvarsan into the blood-stream causes it to reach all parts of the body is, therefore, not borne out by observations. If, as Sicard suggests, the therapeutic activity of salvarsan on cerebrospinal syphilis may be gauged by the presence of arsenic in the cerebrospinal fluid, they have an adequate explanation for its failure to benefit most cases, since it may be assumed that salvarsan destroys the spirochete of syphilis, but it can destroy them only by contact, so that if the so-called syphilitic meningeal affections are due to the presence of the spirochetes they would not be reached by the spirillicide.

Journal of Ophthalmology and Oto-Laryngology, Chicago

December, VI, No. 12, pp. 395-428

72 General Anesthesia in Cataract Work. V. C. Hulen, San Francisco.
73 Differential Diagnosis Between Brain Abscess and Sinus Thrombosis and Treatment of These Conditions. E. B. Dench, New York.

Journal of Outdoor Life, New York

December, IX, No. 12, pp. 389-320

74 Preliminary Talk to Patients Undergoing Treatment for Pulmonary Tuberculosis. L. Brown, Saranac Lake, N. Y.
75 New Sitting-Out Bag for Fresh-Air Classes. F. H. Mann, New York.
76 Tuberculosis in Motion Pictures. P. P. Jacobs, New York.
77 Visiting Nurse and Tuberculosis Control. L. D. Wald, New York.

January, X, No. 1, pp. 1-32

78 Hygienic Qualities and Physical Action of Fabrics for Clothing. A. M. Cooley, New York.
79 What State Forest Reserves Offer to Consumptive. E. M. Griffith, Madison, Wis.
80 Ladies and Alley Children. J. N. Hurty, Indianapolis.
81 Remarkable Tuberculosis Colony. H. B. Masten, Cimarron, N. Mex.
82 Tuberculosis and Public Health in South Africa. J. A. Honeij, Boston.
83 Adequate Educational Campaign Against Tuberculosis. H. E. Dearholt, Milwaukee, Wis.

Journal of Tennessee State Medical Association, Nashville

December, V, No. 8, pp. 309-350

84 Pernicious Anemia. W. H. Witt, Nashville.
85 Precancerous Lesions. W. A. Bryan, Nashville.
86 Advantages and Disadvantages of Nitrous Oxid and Oxygen Anesthesia from Surgical Viewpoint—Review of Literature. W. T. Black, Memphis.
87 Fundamental Principles of Psychotherapy. S. T. Rucker, Memphis.
88 Emotional Paraphronia. J. W. Macquillan, Chattanooga.
89 Diagnosis of Insanity. G. E. Hatcher, Nashville.
90 Short, Sensitive Uterosacral Ligament: Its Significance and Treatment. M. M. Hannum, Maryville.

Lancet-Clinic, Cincinnati

December 14, CVIII, No. 24, pp. 631-656

91 Mercury vs. Salvarsan in Treatment of Syphilis. E. H. Shields, Cincinnati.
92 Local Anesthesia in Ophthalmology, Otorhinology and Some Branches of Major Surgery. K. L. Stoll, Cincinnati.
93 Physiologic Therapeutics. F. L. Davis, Evansville, Ind.
94 Differential Diagnosis of Eruptive Fevers. E. M. Strasser, Cincinnati.

December 21, CVIII, No. 25, pp. 657-674

95 Functional Psychoneuroses. F. W. Langdon, Cincinnati.
96 Clinical Diagnosis of Malignancy of Mammary Gland. A. D. Willmoth, Louisville, Ky.

December 28, CVIII, No. 26, pp. 675-692

97 Modern Treatment of Open Fractures, Fractures with Intractable Fragments and Ununited Fractures. W. D. Haines, Cincinnati.
98 Motor Insufficiency of Stomach: Its Influence in Headache and Neurasthenia. J. D. Dunham, Columbus, Ohio.

Medical Record, New York

December 28, LXXXII, No. 26, pp. 1155-1208

99 Osteitis Deformans (Paget's Disease). S. E. Jones, Denver.
100 Case of Lupus Erythematosus Disseminatus. A. J. Gilmour, New York.
101 Adenomatous Hyperplasia of Prostate. V. C. Pedersen, New York.
102 *Production of Malignant Tumors from Parasites of Earthworm. H. D. Walker, Buffalo, N. Y.
103 Cervical Adenitis in Children. R. H. Fowler, Brooklyn.
104 Artificial Vagina by Intestinal Transplantation. J. F. Baldwin, Columbus, Ohio.

January 4, LXXXIII, No. 1, pp. 1-46

105 Mental Tests. C. L. Dana, New York.
106 Experiences with Antityphoid Inoculation. J. W. Brannan, New York.
107 Conservative Treatment of Tuberculous Lymph-Nodes of Neck, Based on Their Pathology. J. S. Brown, Montclair, N. J.
108 Recent French Progress in Medical Renal Disorders. C. K. Austin, Paris, France.
109 Fatal Case of Gonococcus Septicemia. G. A. Rueck, New York.
110 Comparison of Internal and External Urethrotomies for Tight Strictures of Male. C. A. Bucklin, Glasgow, Scotland.

102. **Production of Malignant Tumors.**—Walker fully believes that he has found the origin and cause of malignant disease, the manner of its production and the methods by which it may be prevented. He has produced many tumors in animals by feeding or injecting them with the parasites from the earthworm. That these tumors were malignant there can be no doubt, for he killed the animals, and some of these tumors were pronounced malignant by competent pathologists. No earthworms, no cancer; plenty of earthworms, plenty of cancer.

Military Surgeon, Washington, D. C.

December, XXXI, No. 6, pp. 625-754

111 Medical Department of United States Army in Civil War. L. C. Duncan, U. S. Army.
112 *How May We Determine Potability of Water in Temporary Camps, Marches and Maneuvers? R. S. McCaughey, Hoopeston, Ill.
113 Organization and Equipment for Evacuation of Wounded. J. H. Ford, U. S. Army.
114 A New Travois: Plea for Its Addition to Equipment of Ambulance Companies. W. W. Reno, U. S. Army.

112. Abstracted in THE JOURNAL, Oct. 26, 1912, p. 1564.

New York Medical Journal

December 28, XCVI, No. 26, pp. 1313-1356

115 Salvarsan vs. Mercury. E. W. Ruggles, Rochester, N. Y.
116 Municipal Supervision of Maternity. S. W. Newmayer, Philadelphia.
117 Women in Medical World. J. J. Walsh, New York.
118 Progressive Deafness: Systemic Factors in Etiology. J. A. Stucky, Lexington, Ky.
119 Adequate Hospital Control. B. H. Waters, New York.
120 Confidential Communications Between Patient and Physician. L. M. Gompertz, New Haven, Conn.
121 Ruptured Sac in Ectopic Pregnancy. F. W. Bradner, New York.
122 New Operating Urethroscope. G. Greenberg, New York.

January 4, XCVII, No. 1, pp. 1-56

123 The Doctor's Future. C. L. Dana, New York.
124 National Medical Insurance as Affecting Future of the Doctor. A. T. Bristow, New York.
125 Cancer of Uterus. H. J. Boldt, New York.
126 Aphasia. A. Gordon, Philadelphia.
127 Ventrosuspension of Uterus (with Linen Thread) Indication for Cesarean Section. J. D. Whitall, Philadelphia.
128 *Etiology of Rabies. F. Proescher, Pittsburgh.
129 Treatment of Hemorrhage by Means of Precipitated Blood Sera. G. H. A. Clowes and F. C. Busch, Buffalo.
130 Suspension Laryngoscopy. L. G. Kaempfer, New York.
131 Infected Knee-Joint: Two Cases of Drainage Without Subsequent Ankylosis. H. Shoemaker, Shelby, N. C.
132 Cheap and Efficient Electric Headlight. J. Wagner, New York.

128. **Etiology of Rabies.**—In 1911, Proescher found an antiformin resistant microorganism in the brain of twelve dogs infected with street virus and in three rabbits infected with fixed virus. The microorganisms were non-acid resistant, stained after Gram, and found in form of bacilli and cocci, either isolated or arranged in chains or groups. The bacilli were 0.5 to 1 micron long and 0.3 micron thick. They were similar to the microorganism found in one instance only, in a smear of freshly prepared fixed virus which was fixed in bichlorid alcohol and stained after the modified Gram method. By dissolving the salivary glands of three dogs and the salivary glands and nerve ganglion of a cow, all of which were proved hydrophobic by animal inoculations, Proescher found the same microorganism as in the brain. Further proof of their etiologic relation to rabies was demonstrated by the intracerebral injection of rabbits with the antiformin sediment from the dogs' brains which produced typical hydrophobia.

On account of the difficult technic in finding these microorganisms by use of antiformin, Proescher resolved to try again to demonstrate them by direct staining of smears and sections without using antiformin. As a consequence, he found, after using a great list of aniline dyes, that the azur carbonate (Unna-Giemsa) was the only one which gave a uniform and constant result. Sections and smears were stained with 1 per cent. carbolazurcarbonate solution and differentiated in equal parts of acetone and alcohol. With this staining method, the entire cycle of the rabies virus can be demonstrated. A more extensive report of Proescher's observation of rabies and poliomyelitis is promised later.

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Ohio State Medical Journal, Columbus

December, VIII, No. 12, pp. 605-654

133 Foreign Bodies Within Eye or Orbit. W. K. Rogers, Columbus.
134 Blunt Dissector for Submucous Septum Resections. W. K. Rogers, Columbus.
135 Method (Magnet) of Removing Fragments of Iron from Interior of Eye. F. W. Lamb, Cincinnati.
136 Ionic Vaccine Therapy in Acne. W. I. Lefevre, Cleveland.
137 Prophylaxis and Therapy of Tetanus. V. A. Dodd, Columbus.
138 Feeding Problem in Infantile Diarrhea. H. J. Morgan, Toledo.

Old Dominion Journal of Medicine and Surgery, Richmond, Va.

December, XV, No. 6, pp. 279-355

139 *Relations of Vascular System to Certain Ocular Diseases. W. H. Wilmer, Washington, D. C.
140 Monosymptomatic Tabes. J. Collins, New York.

139. Relations of Vascular System.—Wilmer reports five cases of uveitis, three of which were due to infection from the intestinal tract. He believes that uveitis not due to traumatism and external infection is usually caused by some toxic material in the blood. The type and severity of the inflammation depend on the character of the bacteria, their number, their actual presence in the tissue and the resisting power of the tissues. Suppurative diseases in other parts of the body may cause non-suppurative inflammations in the eye, because the bacteria may lose something of their virulence in the serum and because the number finding a habitat in the uveal tract are not sufficient to produce a true suppuration in such a vascular tissue.

Ophthalmic Record, Chicago

December, XXI, No. 12, pp. 639-696

141 Study in Dextrophoria. F. Valk, New York.
142 Case of Steel Passing Through Eyeball into Orbit. E. E. Krider, Oelwein, Iowa.
143 Technic of Advancement. A. Elschnig, Prague, Bohemia.
144 Trachoma and Its Surgical Treatment. L. W. Fox, Philadelphia.
145 Pupillary Disk for Correction of Spheric Aberration. A. B. Mason, Atlanta, Ga.
146 Case of Macular Hole Due to Traumatism. E. M. Blake, New Haven, Conn.
147 Case of Retrobulbar Neuritis of Toxemic Origin. F. Allport, Chicago.
148 Migratory Ophthalmia Followed by Recovery of Useful Vision. W. A. Fisher, Chicago.

Pennsylvania Medical Journal, Athens

December, XVI, No. 3, pp. 171-252

149 Glaucoma, Particularly in Regard to Surgical Treatment. J. E. Weeks, New York.
150 Etiology of Phlyctenular Conjunctivitis and Suggested Treatments. H. F. Pyfer, Norristown.
151 *Medical Profession, Public Opinion and Animal Experimentation. O. Klotz, Pittsburgh.
152 *Proctoclysis as Curative and Prophylactic Agent in Primary and Secondary Acute Nephritis in Children. H. Lowenburg, Philadelphia.
153 Occupational Diseases of Skin, Exclusive of So-Called Trade Eczemas. F. C. Knowles, Philadelphia.
154 *Report of Commission on End-Results of Fractures of Femur. W. L. Estes, South Bethlehem.
155 *Use of Tuberculin in Tubercular Adenitis of Neck. A. R. Allen, Carlisle.
156 *Vaccine Therapy in Tubercular Bone and Joint Disease. D. Silver, Pittsburgh.
157 *Acute Osteomyelitis. J. H. Gibbon, Philadelphia.
158 Inflammation of Eye Resulting from Explosion of Golf Ball. J. T. Carpenter and B. F. Baer, Philadelphia.

151. Abstracted in THE JOURNAL, Oct. 26, 1912, p. 1566.

152. Abstracted in THE JOURNAL, Nov. 16, 1912, p. 1816.

154. End-Results of Fractures of Femur.—The first recommendation of the commission and the first deduction from its work is, that teachers of surgery in medical schools should give far more attention than they have done in the last decade or more to their own investigation of fractures, and to the teaching of this most important branch of surgery to the students who belong to their classes. Second, while recognizing the fact that skiagrams may be most misleading, the commission believes, nevertheless, when taken by competent anatomists who understand the importance of proper relative position of tube and limb and the importance of taking more than one view of the fracture, these skiagrams will furnish an indication for the proper reduction and the mechanical appliances for the preservation of proper apposition, and that they will serve as a graphic record of the fracture itself. These skiagrams to be most valuable should be taken before reduction of the fracture, when it has been reduced and has a fixed dressing, and finally after union has taken place and the patient is able to be up and about.

In regard to the method of treatment, the commission from the study of cases finds that some form of traction is the method most commonly employed, and that the results after such treatment in most cases enables the patient to resume his occupation and function without serious detriment. Properly taken skiagrams, however, show that absolute apposition and restoration of proper axis of the bone is very seldom accomplished. It is evident that the open method itself introduces into the treatment of these cases such a very marked element of danger that the commission cannot recommend the method for general use nor recognize it as a routine practice. In selected cases in which it is impracticable to restore the fragments to their proper position and where mechanical means have failed within a reasonable time to produce proper restitution of the fragments, the open method may be employed, but then only by an experienced surgeon, one who habitually employs most thorough aseptic methods. The commission is not prepared to recommend any one method of mechanical treatment. As in everything else the method must be adapted to the case itself, and not the case to the method. Some form of traction, such as Buck's extension, seems to be the preferable method of treatment. If Bardenheuer's suggestion of transverse traction over the ends of the fragments in order to overcome lateral displacements be added, it will greatly improve the results in many cases. Hamilton's apposition splints placed about the fracture at proper places will serve for this purpose in the majority of cases. Plaster-of-Paris is also a valuable means of treating these tractures, but it should be applied under anesthesia. Complete relaxation, unconsciousness of pain and laxity of muscle are necessary in applying the plaster dressing properly to these cases.

155, 156 and 157. Abstracted in THE JOURNAL, Nov. 2, 1912, p. 1646.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

December 14, II, No. 2711, pp. 1649-1696

1 Cardiolysis. R. M. Simon.
2 Intracellular Parasite Developing into Spirochetes. E. H. Ross.
3 Infective Granule as Initial Phase in Life-History of Hemogregarine. H. Henry.
4 *Parasites Recently Found in Syphillis by Jelly Method. E. Jennings.
5 *Certain Bodies Found in Syphilitic Lesions Demonstrated by Jelly Method. S. R. Moolgavkar.
6 Influence of Meteorologic Conditions on Development of Trypanosoma Rhodesiense in Glossina Morsitans. A. Kingborn and W. Yorke.
7 Salvarsan in Pernicious Anemia. E. Hobhouse.
8 Cytology of Blood in Passive Immunity. J. S. C. Douglas.

December 21, II, No. 2712, pp. 1697-1740

9 Some Manifestations of a Healthy Heart in Young Frequently Taken as Indications for Treatment. J. Mackenzie.
10 *Acoustic Phenomena in Mitral Stenosis. T. Lewis.
11 Regional Anesthesia. F. Rood.
12 Case of Stokes-Adams Disease. J. L. Falconer.
13 Nervous and Mental Symptoms in Case of Addison's Disease. J. G. P. Phillips.
14 High-Frequency Currents in Trigeminal Neuralgia. W. F. Somerville.

4. Parasites in Syphilis.—The jelly method so often referred to in connection with the diagnosis of syphilis is as follows: "Coefficient jelly" consists of 2 per cent. agar, containing a sufficiency of saline solution to prevent cytolysis; 5 c.c. of this is placed in a test-tube and 0.4 c.c. of Unna's polychrome methylene blue, and 0.4 c.c. of a 5 per cent. solution of sodium bicarbonate in water is added; the total bulk of the mixture in the test-tube is then made up to 10 c.c. This jelly is boiled, and when molten a drop is poured onto a microscope slide and allowed to spread into a thin film. When cool and set, the blood or pus from a chancre is put on a cover-glass, and this is inverted onto the surface of the set jelly. The cells spread out between the cover-slip and jelly, and in a few minutes the leukocytes and parasites begin to stain and can be examined. The parasites appear as small, round, brown-colored bodies lying free in the plasma. Each one contains some deeply staining granules and a vacuole. Besides these, similar bodies are found enclosed within the mononuclear cells. In this situation they show up on the jelly as copper-colored "inclusions," which

on careful examination contain a stained structure resembling the spirochete.

5. **Bodies Found in Syphilitic Lesions Demonstrated by Jelly Method.**—Moolgavkar makes the jelly as follows: Agar, 1 gram; sodium chlorid, 0.5 gram; polychrome methylene blue, 4 c.c.; distilled water, 100 c.c.; boil, filter and store in test tubes. When required for use, the jelly is melted and a small quantity is poured on to a slide to cover an area of about a square inch and allowed to cool and set. The syphilitic material to be examined is obtained from a hard chancre; a drop of the scraping is mixed with an equal quantity of a 3 per cent. solution of sodium citrate in water and placed on a cover-slip, which is inverted on to the surface of the set jelly. Or a hard, "shotty" syphilitic gland is punctured with a Bayly needle and the gland squeezed; after a minute the needle is withdrawn and the material contained in it is expelled into the citrate solution as before. On the jelly the cells, leukocytes, epithelial cells, lymphocytes, stain a general blue; the "bodies" stain red and this serves to distinguish them readily.

Moolgavkar has examined 25 chancres and 22 glands by this method and has found the bodies in every syphilitic case. They may be described as (1) extracellular, (2) intracellular. The former consist of two forms: (a) Oval bodies, 2 to 10 microns in diameter, containing a granular nucleus and one or two chromatin dots; (b) bodies varying in size from 6 to 15 microns, in which he could find no definite nucleus, but they were completely filled with granules sometimes in violent movement. (2) The intracellular bodies may be divided into two classes also: (c) A red-staining mass, embedded within the cytoplasm of large cells, containing several definite round or pear-shaped chromatin structures. Sometimes this mass appears to have burst when the chromatin structures are found free inside the cell cytoplasm; (d) a large mononuclear cell containing similar red-staining masses which show within their interior either chromatin rods or a skein or tangle of chromatin threads. Apparently these intracellular bodies burst out of the cells, for the threads can sometimes be seen near, but outside, the cells attached to a common chromatin ring. In addition to the above he has seen certain other forms about 10 microns in diameter, which stain very deeply and contain five to six chromatin granules. This form, which is free, frequently seems to divide into six daughters, each containing a chromatin granule. Occasionally in the glands, but frequently in the chancres, refractile bodies about a micron in size are found; each contains two chromatin dots. Moolgavkar believes it is possible that this is but a phase, incompletely stained, of the free forms already described. He is of the opinion that these "bodies" are parasites because of their peculiar staining reaction and because they develop while included within the cytoplasm of the cells of the chancres and glands. Up to the present he has only seen them in syphilitic subjects.

10. **Acoustic Phenomena in Mitral Stenosis.**—The time relation of the first and second sounds in the control curves of mitral stenosis, Lewis says, are practically the same as in normal hearts. The sounds are usually much more intense, though of similar duration to those of the normal heart. When the heart is beating regularly and the sequence of contraction is normal, the shortest diastolic murmurs of mitral stenosis precede the first sound and consequently precede the initial rise of intraventricular pressure. They lie in presystole. Generally speaking the presystolic or diastolic murmur is not a crescendo; the crescendo is an effect of the proximity of the loud first sound. The vibration frequency of the murmur is from 41 to 107 per minute. The murmur begins from 0.05 to 0.22 sec. before the commencement of R and runs over a variable proportion of diastole, according to the variation in the length of the latter; in the longest diastoles and in slow acting hearts there is a period of silence between murmur and first sound; in a shortest diastole the murmur may occupy its whole extent. When heart-block is present the position of the diastolic murmur is largely controlled by the position of the auricular contraction. Lewis concludes that the diastolic murmurs of mitral stenosis are due to the rapid onflow of blood through the stenosed mitral orifice. Those periods of diastole are occupied by murmurs, during which the velocity of flow reaches a certain grade. When the auricle contracts at the normal time and the heart beats slowly, the velocity tends to be greatest in presystole. Otherwise it is usually greatest in early diastole; these are the periods at which murmurs are most commonly audible.

Journal of Tropical Medicine and Hygiene, London

December 16, XV, No. 24, pp. 369-384

15 Origin and Significance of Leishman's Chrome-Cells in Blackwater Fever (Basophil Granular Leukocyte of Ehrlich). V. Shilling-Torgau.
16 Beriberi in Infants. A. J. McLaughlin, Washington, D. C.
17 Porocephaliasis in Man. L. W. Sambon.
18 Copra Itch. A. Castellani.

Lancet, London

December 14, II, No. 4659, pp. 1633-1700

19 Pharmacotherapy of Pneumococcus Infections. (To be continued.) A. E. Wright.
20 *Aural Vertigo (Non-Suppurative): Clinical and Therapeutical Study. R. Lake.
21 *Pneumothorax Treatment of Phthisis. C. Lillingston.
22 Complete Eradication of Extensive Recurrent Cancer Affecting Both Breasts and Axillae. R. C. Lucas.
23 Mucocele of Anterior Ethmoidal Cells. F. C. Allen.
24 Case of Acute Nasal Catarrh Due to Gram-Negative Bacillus Resembling "Distemper" Group of Organisms. A. H. G. Mackintosh.
25 *Method of Rapidly Exterminating Pediculi Capitis. A. Whitfield.

December 21, II, No. 4660, pp. 1701-1770

26 Pharmacotherapy of Pneumococcus Infections. (Concluded.) A. E. Wright.
27 *Chronic Intestinal Stasis. W. A. Lane.
28 *Treatment of Pott's Disease, with Analysis of 116 Cases. T. H. Openshaw and P. R. Roth.
29 Is Gastric Ulcer a Frequent Precursor of Cancer? H. J. Paterson.
30 *Secretory Activity of Stomach in Chronic Appendicitis with Gastric Symptoms. C. Singer.
31 Early Signs of Mediastinal Tumors. J. L. Roberts.
32 Vaccine Treatment of Hay-Fever. A. G. Lovell.
33 Abnormal Tuft of Hair Over Sacrum and Plica Neuropathica. W. K. Sibley.

20. **Aural Vertigo.**—Lake deals with these cases under the following grouping, not as a final solution of the clinical problems, but as a basis on which to start. 1. Peripheral causes: (a) Chronic progressive middle-ear deafness; (b) hemorrhage into labyrinth and embolism; (c) traumatism. 2. Aural vertigo due to altered state of blood-pressure: (a) increased blood-pressure; and (b) diminished blood-pressure. 3. Aural vertigo due to general systemic causes: (a) leukemia; (b) occasional; (c) with ocular symptoms; (d) specific; (e) cerebral anemia. Chronic progressive middle-ear deafness and arteriosclerosis are, according to his investigations, the most frequent causes of aural vertigo, and fortunately one finds that a large amount of benefit can be derived from the use of drugs in these cases, though by no means all of them are capable of this relief. Operative interference is justified, and where it is used it should be uniformly successful.

21. **Pneumothorax Treatment of Phthisis.**—Lillingston's experience embraces eighteen patients treated for periods ranging from six months to three and a half years. The disease was in the third stage and active and the prognosis was very bad in every case. Yet the disease is either arrested or is undergoing arrest in thirteen. Five patients are either dead or dying; but Lillingston sincerely believes that the treatment has prolonged their lives. He has seen no fatal accident from the treatment.

25. **Method of Exterminating Pediculi Capitis.**—The following method is employed by Whitfield in the case of female children, in which treatment is made difficult by the length of hair. The patient is laid on her back on the bed with the head over the edge, and beneath the head is placed a basin on a chair so that the hair lies in the basin. A solution of 1 in 40 phenol is then poured over the hair into the basin and sluiced backward and forward until the whole of the hair is thoroughly soaked with it. It is especially necessary that care should be taken to secure thorough saturation of the hair over the ears and at the nape of the neck, since these parts are not only the sites of predilection of the parasites, but they are apt to escape the solution. The rule Whitfield gives is that this sluicing shall be carried out for ten minutes by the clock. At the end of the ten minutes the hair is lifted from the basin and allowed to drain, but is not dried or even very thoroughly

wring out. The whole head is then swathed with a thick towel, or better a large piece of common house flannel, which is fastened up to form a sort of turban and the head is allowed to remain like this for an hour. It can then be either washed or simply allowed to dry as the phenol, being volatile, quickly disperses. At the end of this period every pediculus and, what is more important, every ovum is dead, and although the ova are left on the hair they will not hatch and no relapse will take place unless exposure to fresh contagion occurs. Incidentally any impetiginous scabs are softened so that they come away easily and allow any ointment which is used for the cure of this complication to be applied easily. In cases in which there is no impetigo no further treatment is necessary.

27. **Chronic Intestinal Stasis.**—Lane believes that unless the capacity of the several tissues of the body to resist the entry of certain organisms is inhibited by the auto-intoxication resulting from intestinal stasis it is impossible for these diseases to develop. Therefore, to meet these diseases, he adopts means to improve the drainage scheme, whether simply mechanical or operative, with the most excellent results. This is nowhere better exemplified than in the extraordinarily rapid disappearance of large tuberculous glandular masses in the abdomen after disconnection of the big bowel. The disease disappears and the health and weight of the patient improve correspondingly, and if the subject be a growing child the rate of growth is much greater than before. Certain symptoms of auto-intoxication present problems of great interest as regards their causation. Pigmentation of the skin becomes a very marked feature in advanced cases of stasis, especially in patients with dark hair. These cases have occasionally been diagnosed as Addison's disease by very competent physicians, and no doubt would have gone to the post-mortem room as such except for operative interference. On eliminating the supply of poison the color of the skin changes with remarkable rapidity. The deep brown or coppery tint disappears, and is replaced by the warm red color indicative of health. Following almost immediately on the exclusion of the large bowel, the cold, blue, clammy hand is replaced by a nice warm, pinkish dry one. Again, in the case of the kidney affected by so-called Bright's disease, which is merely a product of chronic intestinal stasis, the exclusion of the large bowel is followed by an improvement in functioning which is as extraordinary as it is rapid, and a patient who has been face to face with death is quickly restored more or less completely to health, usefulness and activity.

The great difficulty in the treatment of chronic intestinal stasis and its results is to recognize when it is too late to interfere; in other words, when the end result has assumed such proportions that the removal of the primary cause does little or no good. Again, as regards the influence of these toxins or poisons on the nervous system, Lane has seen a patient who had been confined to bed for many months, having neither the capacity nor desire to stand or walk and whose mental condition was such that she was regarded by many as an imbecile, become a happy, active, intelligent woman within a few weeks of the removal of the large bowel. Since that operation she has been leading a useful life and earning her living. What is the source from which these poisonous products are obtained? They may be absorbed from any portion of the gastro-intestinal tract as a primary absorption from the intestine. This supply may be supplemented by absorption of poisonous products from the secondary results of their absorption, such as from suppurating gums or from any secondary infective process communicating or not with the gastro-intestinal tract. The absorption from the secondary result of auto-intoxication may in some cases be very considerable, and the removal of the absorption from the secondary focus may result in great improvement in the patient's condition, though the source of absorption from the intestine be uninfluenced by its treatment.

The primary absorption from the intestine varies in importance, not with the degree of stasis, but rather with the unfitness of that portion of the bowel to deal with organisms, etc., to which it is unaccustomed. For instance, solid material may remain in the sigmoid flexure or pelvic colon for a considerable time and produce but a moderate amount of auto-intoxication. On the other hand, the infection of the contents consequent on a very moderate stasis in the small intestine may bring about a very severe condition of auto-intoxication, while at the same time the mechanical symptoms resulting from it are also much more conspicuous. Stasis of the small intestine with the associated infection of its contents by organisms to which it is unaccustomed is not primary but is secondary to a stasis in the large bowel. In other words, if it were not for the presence of the large bowel the conditions producing stasis in the small intestine would not arise. If the cecum did not become overloaded, the obstruction to the ileal effluent, either by an acquired mesentery, an appendix hitching it up, or by simple stasis, would not develop. Consequently the contents of the small intestine would not become infected by organisms, the duodenum would not be blocked by the drag of the small intestines obstructed at the end of the ileum, the mucous membrane of the duodenum would not inflame and ulcerate, the biliary and pancreatic ducts would not be infected, and the obstructed outflow from the stomach with all its associated sequelae would not occur.

Results from short-circuiting and the disconnection or removal of the large bowel are due largely to the fact that the evacuation of the small intestine is facilitated by its introduction into the pelvic colon and that the infection of its contents by organisms which grow in the stagnating material in the large intestine ceases abruptly. The point of greatest difficulty in the passage of material along the gastro-intestinal tract is through the last few inches of the ileum. This is particularly the case when the cecum has been securely fixed by acquired adhesions in the iliac fossa.

28. **Treatment of Pott's Disease.**—A brief account of the treatment of Pott's disease as carried out in the orthopedic department of the London Hospital during the last ten years is given by Openshaw and Roth. The treatment throughout has been rigidly conservative; and the two principles underlying the treatment have been (1) to put the diseased parts absolutely at rest, and (2) not to interfere surgically until forced to do so. This treatment has been adopted as the result of observations extending over thirty-five years, and after prolonged trials of other methods, e. g., plaster-of-Paris and poroplastic jackets without recumbency, forcible stretching, laminectomy, early incision and drainage of abscesses, injection of iodoform and other substances after aspiration, irrigation of sinuses with various antiseptics, curetting and laying open of sinuses, etc. Directly the condition of active Pott's disease is diagnosed the child is measured for a double Thomas hip splint with head and feet extensions. While this is being made the child is kept in bed at home or in the hospital. When once the child has been placed in the splint he is never taken out, except once weekly, until a complete cure has been brought about. Its great advantages over other splints are, (1) that it fits for years, for the head and feet extensions being adjustable are lengthened as the child grows; (2) that the diseased portion of the spine and the abdomen and groins can always be inspected without removing the splint; (3) that if a sinus is present dressings can be applied; (4) that the child can be washed daily, and so prevented from becoming verminous; (5) that the splint does not cause sores; and (6) that it does not interfere with growth or chest development.

30. **Secretory Activity of Stomach in Appendicitis.**—Paterson finds it difficult to accept the view that grafting of cancer on simple ulcer is a frequent event.

Annales de Gynécologie et d'Obstétrique, Paris

November, XXXIX, No. 11, pp. 641-704

34 *Transfusion of Blood After Obstetric Hemorrhage. Lambert and Oui.

35 *The High Blood-Pressure in Pregnant Women. (L'hypertension gravidique.) V. Wallich.

36 *Remote Prognosis of Albuminuria in Pregnant Women. (Pronostic éloigné de l'albuminurie chez les femmes enceintes.) G. Lepage. Commenced in No. 10.

34. **Transfusion of Blood for Obstetric Hemorrhage.**—Already abstracted in THE JOURNAL, Dec. 7, 1912, p. 2098.

35. **The High Blood-Pressure in Pregnant Women.**—Wallich has tested the blood-pressure in a number of pregnant women and found it abnormally high as a rule. This favors hemorrhage and especially the hemorrhagic lesions so common in eclampsia and albuminuria. He was able to produce similar lesions by injecting the blood-vessels in cadavers with a fluid under pressure. The abnormally high blood-pressure explains by its mechanical action the lesions in especially fragile tissues such as the placenta and in some of the viscera in eclampsia and albuminuria. The hypertension of pregnancy seems to be connected with some functional disorder in the kidney and the action of some toxin or toxins. The hypertension is liable to entail insomnia, headache, edema and polyuria besides the hemorrhages in the placenta and viscera. The pulse in the pregnant woman should be supervised with as much care as the urine. When the blood-pressure is found high, repose, dieting and laxatives should be the main reliance until we are better posted on the action of drugs to reduce the tension during pregnancy. In extreme cases, copious and repeated venesection may be useful. The convulsions in eclampsia send the blood-pressure flying up, with consequent danger of fatal hemorrhagic lesions in mother and child, and greater stress than ever should be placed on means to ward off the convulsions. The intoxications of pregnancy are not peculiar to this condition but are merely the result of interference with the functioning of the kidneys, thus causing unusual retention of toxic waste. An abnormally high blood-pressure is thus a matter of concern to the obstetrician not only as a sign of retention of toxins, but on account of the danger of hemorrhages into the tissues.

36. **Prognosis of Albuminuria During Pregnancy.**—Lepage concludes from his review of his extensive clinical experience that a woman who has had symptoms of pregnancy intoxication once, especially at the first pregnancy, should be supervised with special care during succeeding pregnancies, from the earliest months onward. When the intoxication was severe enough to bring on convulsions or premature separation of the placenta compelling interruption of the pregnancy or killing the fetus, the woman should have her urine examined for albumin at least once a week, and the amount and quality noted. Lepage suggests that the patient can be trained to do this herself. Once a month, especially during the three last months of the pregnancy, a complete analysis of the urine should be made. The diet should be restricted almost exclusively to milk and water. A milk-vegetable diet may be allowed if the accidents were not very serious. Abstention from salt is advisable in case there is manifest retention of chlorids. Milk, white meat and starchy dishes—the "white diet"—may be permitted if the woman has carried through without mishap one or two pregnancies outside the pregnancy with the serious trouble. Every cause for fatigue, everything entailing exposure to bad weather or chilling should be avoided. The blood-pressure should be supervised and venesection done at need. The remote prognosis may be regarded as the more favorable the better the woman is supervised and the stricter the heed she pays to medical advice in further pregnancies. He gives the details of seventeen hospital cases in which the albuminuria seemed to be the direct cause of the death of the fetus, while in a group of three from his private practice the woman was safely tided past the danger point. In another group of eleven hospital cases of albuminuria there was premature separation of the placenta and in eight of the cases the women never bore a living child afterward in their numerous pregnancies. The other cases show, however, that with systematic care later pregnancies can be carried to a successful termination.

Annales de l'Institut Pasteur, Paris

November, XXVI, No. 11, pp. 825-936

37 *Attempts to Rid the Intestines of Toxins. (Sur quelques essais de désintoxication intestinale.) E. Metchnikoff and E. Wollman.

38 *The Chemical Imponderables in Agriculture. (Sur le rôle des infiniment petits chimiques en agriculture.) G. Bertrand.

39 *Attenuated Tubercle Bacilli and Fluctuation in Virulence. (La virulence des bacilles tuberculeux et les tuberculoses dites atténuées. E. Burnet.

40 Trypanosoma Contagious for Mice. (Trypanosomie d'un réduvide inoculable au rat et à la souris.) A. Lafont.

41 The Ferments Attacking Mannite. (Recherches sur le ferment mannitique.) E. Dubourg.

42 Hydrolizing of Saccharose. (Recherches sur l'hydrolyse comparée du saccharose par divers acides en présence de la sucrase d'aspergillus niger.) G. Bertrand and M. Rosenblatt.

37. **Prophylaxis of Auto-Intoxication from the Intestines.**—This article is another contribution to Metchnikoff's series of works on the possibility of warding off senile changes by preventing accumulation of toxins in the digestive tract. His latest preceding work was summarized in these columns Oct. 12, 1912, p. 1409.

38. **Rôle of Chemical Imponderables in Agriculture.**—This article was read at the international congress of applied chemistry held at New York last September.

39. **Fluctuations in Virulence of Tubercle Bacilli.**—Burnet has been studying the virulence of seventy-five different strains of tubercle bacilli cultivated from tuberculous bone and joint processes (26), lymph-node processes (23), cutaneous (10), and lungs, kidneys or meninges (16). Among the fifty-nine strains isolated from external tuberculous processes, none was of the bovine type. Inoculation of hundreds of guinea-pigs with forty-two of the strains showed that all were virulent although mostly from processes of the mild, scrofulous type. The fact that the tuberculous process is mild by no means justifies the assumption that the bacilli have lost their virulence. In only one of the mild cases was the bacillus apparently attenuated in virulence.

Archives Générales de Chirurgie, Paris

November, VI, No. 11, pp. 1261-1388

43 *Infection of Submaxillary Gland. (Sur les infections non spécifiques de la glande sous-maxillaire.) G. Potel and E. Verhaeghe.

44 *Mercurial Treatment of Puerperal Septicemia. (Traitement par le mercure de l'infection puerpérale à forme septicémique.) E. Giron.

45 Appendicectomy in a Herniotomy. (L'appendicectomie dans les opérations de cure radicale des hernies crurales et inguinales.) Lennart-Norrlin.

43. **Infection of the Submaxillary Gland.**—The text-books classify the non-specific affections of this gland as "fistulas, concrements and infections," but Potel and Verhaeghe declare that infection is at the bottom of all. In a case recently under observation the patient was a man of 28 with recurring painful swelling of the region below the left jaw for about a year, the attacks growing constantly longer, with inability to chew or swallow properly. He was subject to recurring tonsillitis and a tumor the size of a walnut was evident in the region, movable and not tender at the time of examination but during mastication the tumor increased in size, became tender and painful, the pain radiating to the ear, but there was no fever. As the condition continued to grow worse in spite of ten days of disinfection of the mouth, the inflamed gland was removed after a difficult operation, the region being so vascular; the gland was found diseased throughout and adherent. The outcome was a complete cure. Radical operative treatment seems indispensable in such cases of infection of the submaxillary gland outside of mumps, tuberculosis and actinomycosis. General anesthesia is preferable as local conditions render circumscribed anesthesia exceedingly inconvenient. It is better to leave some diseased tissue rather than run the risk of injuring the jugular vein. Thorough drainage protects against retention of septic matters and the spread of the infection into the mouth. A hard patch may be left in the region, resembling a woody phlegmon, as in the case described, but under the systematic application of heat the tissues gradually resume their normal aspect.

44. **Mercurial Treatment of Puerperal Septicemia.**—Giron calls attention to the fine results obtained by the Italians, Barsony at Budapest and Souligoux at Paris from intra-uterine, intravenous or intramuscular injections of some preparation of mercury. This revival of the old method of mercurial treatment of puerperal infection seems very promising in the cases in which the infection—although originating in the uterus—has spread throughout the organism and there is no special localization, the uterus being empty of débris. Intra-uterine injection of the disinfectant is of no use at this

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stage, but attempts in this line were responsible for the discovery of the general efficacy of the mercury in these cases. Patients given the intra-uterine injections of the mercury developed mercurial intoxication in a large proportion of cases but these patients were the ones who recovered from the puerperal septicemia. The next step was to apply the mercury in such a way as to avoid the intoxication while obtaining the general effect. Giron relates the details of four typical cases out of 149 in which this method of treatment had been applied. The women had all been delivered at home, mostly in extremely unhygienic environments. Four of the patients were moribund. Of the remaining 145, all the women recovered except three, a mortality thus of 2.06 per cent. Barsony has reported a mortality of only 0.059 in his infected parturients at Budapest given mercurial treatment 1903-1909, but the two statistics embrace the extremes, one the slum homes of Paris, the other a well-equipped maternity. Souligoux and his imitators prefer the cyanid rather than the bichlorid which is used in Italy and by Barsony. Giron injects into a muscle 1 c.c. of a solution of 0.01 gm. mercuric cyanid in 1 c.c. of distilled water with a little anesthetic. He repeats this daily for seven days, then suspends it for a week, and then resumes for another seven days if necessary, but a second series is rarely required. He stops the injections as soon as the temperature drops to normal. With the cyanid there is seldom any warning stomatitis, so that extreme prudence is necessary and the blood should be examined every day or at least every second day. If the number of reds drops, the mercury must be suspended and a liter or liter and a half of artificial serum injected to spare the reds further harm. The regeneration of the blood can be hastened by withdrawal of a small amount of blood by venesection every day. When the blood-count approximates normal once more the cyanid can be resumed but with extreme caution. Barsony's method differs from this: he uses three solutions of mercuric chlorid, respectively at 2, 3 and 5 per cent., all in a 0.9 per cent. salt solution. Before every delivery and every operation he injects 1 c.c. of the 2 or 3 per cent. solution; the first day the fever presents itself he injects morning and evening 1 c.c. of the 3 or 5 per cent. solution, and the following days, morning and evening 1 c.c. of the 2 or 3 per cent. solution. On symptoms of mercurial poisoning he suspends the mercury and resumes it again after the symptoms have subsided, using the weakest solution for a day or two. In case of anemia or mild nephritis he uses only the weaker solution throughout. The intramuscular technic is much simpler and easier than the intravenous, and is within the reach of all, Giron remarks, while it has the additional advantage of inducing at each injection a mild hyperleukocytosis, the effects of which become superposed. With intravenous injections, the first injection is followed by a considerable leukocytosis, but after this the reaction is less marked and very transient. The contra-indications of the method are those of mercury in general. The only by-effects Giron has observed compelling suspension of the treatment were diarrhea in some cases and a rapid drop in the number of red corpuscles. The diarrhea soon yields to enemas containing laudanum or to opium by the mouth. The general improvement noted by the second or third injection shows the benefit being realized from the mercurial treatment, the organism rallying anew to the struggle.

Bulletin de l'Académie de Médecine, Paris

December 10, LXXVI, No. 42, pp. 503-522

46 *Salvarsan in Chorea. (Sur les effets favorables des injections intra-veineuses de Salvarsan dans 25 cas de Chorée de Sydenham.) P. Marie and C. Chatelin.

46. Summarized in Paris Letter in THE JOURNAL, January 4, p. 63.

Bulletins de la Société de Pédiatrie, Paris

November, XIV, No. 8, pp. 413-474

47 Retention of Nitrogen and Salt in Bottle-Fed Infants. (Les rétentions azotées et salines des nourrissons nourris au biberon.—Les atrophiques floriides.) H. Barbier.

48 Roentgenotherapy for Enlargement of the Thymus; Two Successful Cases. V. Veau.

49 Necessity for Modifying Technic in Applying Abbott's Method of Treating Scoliosis. (Un nouveau traitement de la scoliose. Méthode d'Abbott.) J. Calvé and L. Lamy.

50 Roentgenotherapy Effectual Stimulant in Simple Anemia in Girl of 7. (Purpura. Pseudo-hémophilie. Insuccès des différentes thérapeutiques. Radiothérapie. Guérison.) Triboulet, Albert-Weil and Paraf.

51 Nitrogenous Bodies in the Blood of Cachectic Infants. (La forme athrepsique de l'azotémie des nourrissons.) Nobécourt and Maillet.

52 Roentgenoscopy of Pulmonary Tuberculosis in Infants. L. Ribadeau-Dumas, A. Weill and Maingot.

53 Sunlight as Adjuvant in Treatment of Tuberculous Peritonitis; Three Cases; Rapid Recovery. D'Oelsnitz.

Lyon Médical, Lyons

November 17, XLIV, No. 46, pp. 809-856

54 Action of Roentgen Rays on the Dog's Thymus. (Action des rayons de Röntgen sur le thymus du chien.) C. Regaud and R. Cremieu.

55 *Antimeningococcus Serum in Treatment of Gonorrheal Urethritis. (Trois observations d'uréirite blenorragiques traitées par le sérum antiméningococcique.) R. Salle.

December 1, No. 48, pp. 905-948

56 *Pelvic Cellulitis Following Wertheim's Operation. Violet. Commenced in No. 47.

55. **Antimeningococcus Serum in Treatment of Gonorrheal Urethritis.**—Three cases of acute gonorrhea are described in which subcutaneous injections of 10 c.c. of antimeningococcic serum were given at intervals of three days with a prompt and permanent cure in each instance.

56. **Pelvic Cellulitis Following Wertheim's Operation.**—Violet reports four cases of pelvic cellulitis following Wertheim's operation, giving temperature charts. It is difficult to distinguish these cases from peritonitis. They may begin with even more violent symptoms as to temperature and pulse, but the abdomen is soft, not distended, and there is no nausea or vomiting. On the second day there is generally a fall in temperature, whereas in a peritonitis of equal severity death would occur in two or three days. The temperature generally returns to normal within a week. Phlebitis is a frequent complication. Three of the cases reported were cancer of the uterus. One patient is still well at the end of five years, two others after three and two years.

Presse Médicale, Paris

November 30, XX, No. 99, pp. 1001-1012

57 *Paroxysmal Hemoglobinuria. (Pathogénie de l'hémoglobinurie paroxystique; syndrome spléno-hépato-rénal.) A. Gilbert, E. Chabrol and H. Bénard.

58 *Pain in the Cystic Duct as Sign of Typhoid Fever and in Prognosis. (Douleur cystique dans la fièvre typhoïde.) A. D. Radulesco and C. C. Atanassiu.

59 Prostatectomy. (1,000 opérations d'énucléation de la prostate.) de Valcourt.

60 *High Blood-Pressure of Functional or Organic Origin. (Les deux hypertensions.) A. Martinet.

57. **Paroxysmal Hemoglobinuria.**—Gilbert, Chabrol and Bénard report a case of recurring paroxysmal hemoglobinuria in which the renal element in the syndrome was emphasized by the occurrence of acute nephritis. The patient was a grocer of 25; for the last six years he had had occasional attacks of hemoglobinuria after exposure to cold. By avoiding exposure and meat, he succeeded the fifth year in keeping the tendency under control although the liver and spleen persisted enlarged and there was considerable cholemia. In another case reported the symptoms were those of simple jaundice outside of the paroxysmal hemoglobinuria. Albuminuria in both cases not only accompanied the hemoglobinuria but preceded it and persisted after it and sometimes took its place, with more or less tube-casts. There is evidently an excess of hemolysins generated in the spleen in these cases, and the reds damaged by them are still further destroyed in the parenchyma of the kidney, especially when the circulation in the kidneys is sluggish from the effect of cold. The affection may thus be regarded as a spleen-liver-kidney syndrome, allied to simple jaundice and like this, bearing the stamp of hyperhemolysis.

58. **Pain in the Cystic Duct in Diagnosis and Prognosis of Typhoid.**—Radulesco and Atanassiu have found tenderness in the cystic duct and occasionally stiffening of the muscles above as a very early sign of typhoid fever and a warning of a relapse. The tenderness subsides as the disease in general declines, and it is never apparent during convalescence. Its persistence or return is a sure sign of an impending relapse. In eighteen cases of typhoid with positive agglutination this sign was found in all the forty-seven entering the hospital

during the first week; in sixty-five of the sixty-nine in the second week; in twenty-three of the seventy-seven the third week and in six of the seventy-two convalescents, and each of these six had a relapse soon after. They emphasize the importance for diagnosis and prognosis of the early appearance, constancy and regular disappearance of the sign. In an equal number of patients with other affections the sign was never found in twenty-seven with scarlet fever; twelve with diphtheria, eighteen with erysipelas; twelve with catarrhal jaundice, and nineteen with malaria, but in the eight cases of pneumonia, five of pleurisy; and in fifteen with asystole the entire liver was found tender, without any strictly localized tenderness at the cystic point. To elicit the sign the patient reclines on his back and breathes deep. The physician at the patient's right works his left hand between the crest of the ilium and the lower edge of the ribs and lifts up the posterior wall of the abdomen, thus forcing up the liver. The fingers of the right hand are worked into the abdominal wall to reach the margin just at the junction of the cystic duct, applying gentle continuous deep pressure from below upward. When the sign is positive there is a more or less sharp pain as the "cystic point" is reached; if the patient is unconscious there is a marked stiffening of the muscles above and the face shows a grimace while nothing of the kind occurs when the same maneuver is done on the left side.

60. **Differential Diagnosis of Functional and Organic Abnormally High Blood-Pressure.**—Martinet emphasizes the importance of differentiation as the treatment for one may do harm in the other. The index to the functional form is obtained by comparing the diuresis with the range between the maximal and the minimal pressure; that is, the differential pressure; the index to the organic form is obtained by comparing the viscosity of the blood and the differential pressure. He has found that with normal kidneys the daily output of urine per c.c. of differential pressure is 0.25 liter or above. With sclerosis of the kidneys, the figure is below 0.20 liter. He gives some diagrams and tables to show the workings of this law and its explanation. A syringe filled with camphorated oil requires more force to empty it than if it were filled with water, and in the same way the viscosity of the blood influences the output of urine. On the other hand, if the syringe is fitted with a finer needle, still greater force is required to empty it even when it is filled with pure water. An organic lesion in the kidneys interferes in the same mechanical way with the output of urine. In a dozen patients with normal or merely functionally high blood-pressure the differential pressure ranged from 6 to 10, the viscosity from 4 to 6.2. The index is obtained by dividing the differential pressure by the viscosity. In health or without kidney disease the result is an index ranging from 1.2 to 1.8. In twelve patients with interstitial nephritis the differential pressure ranged from 10 to 22 while the viscosity was low, 3.2 to 4.7 at most, and the index ranged from 2.55 to 7.3. When findings such as the above are found on repeated examinations, light is thrown on the true condition, possibly in time to ward off irreparable damage.

Revue de Médecine, Paris

November, XXXII, No. 11, pp. 865-944

61 The Responsibility of Europe for Spreading Tuberculosis in the Polynesian Islands. (La part de l'Europe dans l'épidémie de tuberculose des Polynésiens.) M. Coutenaud.
62 Tuberculous Nature of Ascitic Fluid with Cirrhosis. (De la nature tuberculeuse de l'ascite dans les cirrhoses.) G. Roque and V. Cordier. Commenced in No. 10.
63 *Study of Inheritance in 442 Tuberculous Families Among Workingmen. (Enquête sur la descendance de 442 familles ouvrières tuberculeuses.) C. Leroux and W. Grunberg.

63. **The Inherited Taint in 442 Tuberculous Wage-Earner Families.**—Leroux and Grunberg made a detailed study of 442 workingmen's families with a history of tuberculosis in regard to infantile mortality, morbidity, vitality, malnutrition and the hereditary predisposition to tuberculosis. They also examined 126 non-tuberculous families for comparison. Tables are given showing in detail their results. The infantile mortality in the non-tuberculous families was 17.75 per cent., in the tuberculous ones 40.6 per cent. They conclude that there is no real inheritance of tuberculosis itself, but that there is a general state of malnutrition and particularly a transmitted weakness of the lung tissue. The predominating factor, however, in developing tuberculosis in these children who are below par in their inheritance is to be found in the bad hygienic conditions under which they live. The houses are damp, dark, unclean and so thoroughly infected that it is impossible to render them sanitary. They recommend no less radical measures than the burning of the worst houses and replacing them by model workingmen's houses to be built by the government or municipality. During 1911 the model tenements built by the Rothschild foundation with a population of 1,999 showed a mortality of 6 per 1,000, while the ordinary tenements in the same district showed 22.4 per 1,000. Parliament and the municipal council of Paris are now considering bills looking toward the provision of a municipal fund to buy land and build workingmen's houses.

Revue Pratique d'Obstétrique et de Gynécologie, Paris

November, XX, No. 11, pp. 321-348

64 *Inversion of Uterus. A. Béhague.
65 *Treatment of Vomiting in Infants. (Traitement des vomissements chez les nourrissons.) J. Sébilleau.

64. **Inversion of the Uterus.**—The inversion occurred in a girl of 16 during expulsion of a large polyp in the first of the two cases encountered by Béhague during his twenty-two years of practice; in the other case it occurred during delivery. The inversion occurred gradually in both cases. The uterus can sometimes be reduced by hand; if this proves impossible, incising the cervix may help. But if there is no prospect of success with this, colpohysterotomy is the next resort. Hysterectomy should not be done unless none of the other measures is practicable.

65. **Vomiting of Infants.**—Sébilleau describes the different causes for habitual vomiting in a nursling, stating that treatment can be only tentative at first until it is learned whether overfeeding or underfeeding is responsible for the vomiting or other causes are involved. He has found very valuable a tablespoonful of a 1.7 per cent. solution of sodium citrate added to each feeding or given the child before it is put to the breast. His experience with it confirms the assertions made by American and English writers in regard to its efficacy.

Semaine Médicale, Paris

December 11, XXXII, No. 50, pp. 589-600

66 *Pseudomyxoma of the Peritoneum. (La "maladie gélatineuse" du péritoine d'origine appendiculaire.) F. Lejars.

December 18, No. 51, pp. 601-611

67 Experiments on Transmission of Scarlet Fever to Animals. (La scarlatine expérimentale.) L. Cheinisse.

66. **Peritoneal Pseudomyxoma.**—Lejars reports a case in which a man of 45 had a fistula left from an operation in the appendix region four months before, and a translucent, jelly-like discharge was accompanied by a tumor in the region, a probe passing through the fistula into a cavity containing more of the jelly-like substance. Lejars evacuated this cavity, scraping out two handfuls of the jelly-like masses. The affection was supposed to be a colloid cancer but the man soon recovered completely and his continued good health at farm labor proves that the trouble was merely a pseudomyxoma of appendicular origin, such as Péan, Trotter, Eden and others have described. Lejars has encountered two similar cases which he describes and reviews the literature on the subject. The data all confirm the comparative harmlessness of the affection when the "jelly disease" is of appendicular origin, in direct contrast to that liable to follow cystic disease of the ovaries. The discovery of a myxoma, therefore, does not always mean a colloid cancer, and there is no need for excessive radical intervention. The patients in the cases on record all recovered after mere removal of the appendix and clearing out of the accumulations of jelly-like masses.

Beiträge zur Klinik der Tuberkulose, Würzburg

XXV, No. 2, pp. 185-354. Last indexed Dec. 7, 1912, p. 2100

68 *Direct Visual Inspection of Conditions Inside Abdomen and Thorax: Laparoscopy Findings in Fifty-Nine Cases; Thoracoscopy in Seventy-One. H. C. Jacobaeus.

68. Direct Visual Inspection of Conditions Inside Abdomen and Chest.—This number of the *Beiträge* is devoted entirely to a description of the findings when a cystoscope was introduced inside the abdomen or chest. A Nitze No. 12 seems to be the most useful size for the purpose. The findings and conclusion as compared with the clinical course of the cases and the necropsy findings are reported, with several colored plates. In the six cases of tuberculous peritonitis air was left behind in the abdominal cavity; all the patients soon showed a marked turn for the better, proving at least that the laparoscopy had certainly done no harm.

Berliner klinische Wochenschrift

December 9, XLIX, No. 50, pp. 2345-2392

69 Successful Operation for Cerebellar Tumor. (Fall operativ behandelter Kleinhirngeschwulst mit Heilerfolg.) H. Oppenheim.
70 Herpes Zoster and Varicella. P. Heim.
71 Influence of Hormones on Opsonic Index. (Pharmako-dynamische Probleme.) A. Strubell.
72 The Declining Birth-Rate. (Der Geburtenrückgang und seine Bekämpfung.) J. Wolf. Commenced in No. 49.
73 Bile Peritonitis Without Perforation of Biliary Passages; Three Cases. (Zur galligen Peritonitis ohne Perforation der Gallenwege.) F. Wolff.
74 Technic for Suturing Wounds. (Zur Frage der Wundnaht-Technik.) H. Oppenheim.
75 Effect on Eye of Puncture of the Corpus Callosum. (Ophthalmologische Betrachtungen zum "Balkenstich.") R. Hessberg.
76 Radiotherapy of Cancer. (Anwendung des Radiums und des Mesothoriums bei Geschwülsten.) A. Sticker.

Correspondenz-Blatt für Schweizer Aerzte, Basel

December 10, XLII, No. 35, pp. 1321-1352

77 Ethics and Psychotherapy. P. Dubois.

Deutsches Archiv für klinische Medizin, Leipsic

CVIII, Nos. 5-6, pp. 465-669. Last indexed December 7, p. 2161

78 Connection Between Eosinophilia and Anaphylaxis. H. Schlecht and G. Schwenker.
79 Palpation and Roentgenoscopic Control of Gastro-Intestinal Tract. (Die topographische Gleit- und Tiefenpalpation des Verdauungsschlauchs und ihre Ergebnisse.) T. Hausmann. (Radiologische Kontrolluntersuchungen.) T. Haussmann and J. Meinertz.
80 Circulation in Collapsed Lung. (Blutzirkulation in der atelektatischen Lunge.) O. Bruns.
81 Mechanism of Heart Action in Case of Atrioventricular Paroxysmal Tachycardia. (Zum Studium der Pulsarhythmien. I.) R. Kaufmann and H. Popper.
82 Influence on Respiratory Interchanges of Exclusion of the Liver. (Einfluss der Leberausschaltung auf den respiratorischen Stoffwechsel.) F. Fischler and E. Grafe.
83 Rise of Pressure in Venous System During Physical Effort as Functional Test of the Heart. (Erhöhung des Druckes im venösen System bei Anstrengung als Mass für die Funktionsfahigkeit des menschlichen Herzens.) E. Schott.
84 Absorption of Potent Elements from Infusions and Preparations of Digitalis. S. Agawa.
85 Curable Acute Liver Disease. (Heilbare akute Hepatitis.) F. Schulize.
86 Nephrolysins. H. Lüdke and L. Schüller.

Deutsche medizinische Wochenschrift, Berlin

December 5, XXXVIII, No. 49, pp. 2297-2344

87 *Treatment of Enuresis. (Behandlung der Enuresis nocturna.) M. Klotz.
88 Technic for Serodiagnosis of Syphilis. (Weitere Erfahrungen über Verwendung von Azetonextrakten bei der Serumdiagnostik der Syphilis.) O. Stiner.
89 *Toxic Action of Urine in Peritoneum. (Urinintoxikation bei intraperitonealer Harnblasenruptur.) F. Oehlecker.
90 Sarcoma of the Knee. (Primäres, diffuses Sarkom der Kniegelenkkapsel unter dem Bilde der entzündlichen Fettgewebshyperplasie.) M. Blumenthal.
91 Thiersch Flap for Closing Gap in Urethra. (Deckung von Harnröhrendefekten mittels Thierschscher Transplantation.) A. Müller.
92 Roentgenotherapy in Gynecology. J. Wetterer.
93 *Pneumonic Plague in Brazil. (Eine Lungenpestepidemie in Südbrazilien.) Rau.

87. Treatment of Enuresis.—Klotz remarks that the progress of science has benefited the treatment of enuresis, especially the lesson learned from the reduction of diuresis in diabetics on a vegetable diet. Vegetables contain a large proportion of water, which tends to reduce thirst, while the stools on a vegetable diet are abundant and very soft, so that a large proportion of the fluid output occurs by way of the intestines instead of the kidneys. A vegetable diet is thus the ideal diet for children with enuresis nocturna. Coffee, beer and all alcoholic drinks are contra-indicated and milk should be restricted; fully 600 of 1,000 parts of milk pass out of the system in the form of urine. If there is much thirst, fruit should be given rather than fluids. A very important measure in treatment of enuresis, second only to restricting the intake of fluids after 4 p. m., is to raise the foot of the bed and make the child sleep on its side, possibly by tying a brush to its back which hurts if he rolls over on it, and systematic waking up of the child to have it urinate regularly. Most of the children addicted to enuresis are exceptionally hard sleepers and they are not aroused by the desire to urinate. This can be remedied by having the child take a nap for two hours, morning and afternoon. To promote evaporation of moisture from the children, he advises dressing the child lightly at night and promoting perspiration by out-of-door play during the day. The latter alone has frequently cured a tendency to pollakiura and incontinence of urine during the day. Klotz has had no experience with Pfaundler's electric alarm; a bell is rung by the closing of the circuit between two wires in a cloth wound around the loins, as it becomes wet. As a rule, however, the children with enuresis are of a neuropathic disposition, of which it often is the only manifestation. It is a common finding that every third or fourth child with enuresis has some near relative with the same tendency; the little patient in most cases is an only child. In this class of cases the benefit from any measure is due to suggestion, and the measure invoked should be made as impressive for the child as possible, and all disturbing counterinfluences eliminated, the physician putting on a white robe, gloves, etc., and placing the child on the operating table. A frequently important point is to call some specialist in consultation, as the child may feel too much at home with the family physician; outside authority may be needed for the suggestive effect. The most effectual measure is application of the faradic current, seeking to impress the child. The electrode had best be applied to the genital region, and it must not be forgotten that certain nervous psychopathic children are not sensitive to the faradic current. Still another point to be borne in mind is not to announce the measures beforehand, for fear that some third party may deride them and the anticipated results. If the induced current fails, subcutaneous injections can be tried and, in rebellious cases, a local cold douche; the child sits unsuspectingly on a chair with the seat cut out and a jet of cold water is turned on the genitals suddenly from below. Klotz has never used hypnosis, having accomplished the desired results without it. When all else fails, he advises a change of scene, separating the child from its home environment for several months.

89. Intoxication from Urine Escaping into the Peritoneum.—Oehlecker reports two cases in which the rupture of the bladder and the escape of urine into the peritoneal cavity were ascertained only by testing the freezing point of the blood. In both cases the clinical picture was that of uremia; in one case, the patient a robust man of 39, the urine had been flowing into the abdominal cavity for a week; in the other for five days. These cases teach the necessity for suspecting a rupture of the bladder as the cause of peritonitis of obscure origin. Opening the abdomen and clearing out the accumulations may have a most wonderful effect; such a prompt and striking change for the better after the laparotomy is never witnessed in peritonitis from any other cause. As the urine was sterile in these two cases, the abdomen was sutured after it had been cleaned out, and a retention catheter was not needed.

93. Pneumonic Plague in Brazil.—Rau states that bubonic plague first appeared in South America twelve years ago, and cases have been known at Santa Maria, a town of 18,000 inhabitants, for four years. At first there were one or two cases in a house, then weeks and months would pass before another case would develop in another house far from the first. There never was any epidemic prevalence until last July, when a boy in a bakery died of pneumonic plague and seventeen other persons who had been more or less in contact with the patient also developed the disease and all died; no case from indirect contact. Over 200 dead rats were found under the floor of the house with the first case. The ordinary form of the disease had evidently become transformed into the pneumonic form. The first case probably was infected from the rats, but infection then proceeded by sputum droplets. The

attending physicians wore overgarments and tied cotton in gauze over their mouths and noses; none contracted the disease and the epidemic was stamped out by the middle of August. This small epidemic teaches that the different forms of plague may blend into each other. No mortality was known at the time in any other animal except the rats.

Monatsschrift für Kinderheilkunde, Leipsic

XI, No. 6, pp. 233-280

94 The Amount of Milk Sugar in Breast Milk. (Ueber den Milchzucker der Frauenmilch.) F. Lust.
95 Infantile Mortality in Germany During the Summer Months. (Verbreitung der Sommersäuglingssterblichkeit in Deutschland.) H. Risel.
96 *Tuberculin Treatment. Klotz.
97 The Significance of Eosinophilia with the Exudative Diathesis. E. Aschenheim.

98. Tuberculin Treatment in Children.—Klotz concludes from his extensive experience that the best method for administration of tuberculin, especially in children, is through the skin, as by the technic for the Pirquet test. The skin is inoculated at three, four or five different places, and the inoculations are repeated at intervals. The results were particularly favorable in gland and bone tuberculosis. In pulmonary tuberculosis it delays the process in even extreme cases, and is a valuable aid to other therapeutic measures. It never does any harm, he affirms, and when this form of administration is used before subcutaneous injection, it prevents the ill effects of the latter. He accounts for its effectual action on the ground that it stimulates the skin to the formation of receptors which neutralize the toxin produced by the bacilli.

Münchener medizinische Wochenschrift

December 3, LIX, No. 49, pp. 2637-2712

98 *Direct Transfusion of Blood; Five Cases. H. Flörcken.
99 *Diagnosis of Enlarged Bronchial Lymph-Nodes. (Bronchialdrüsendiagnostik.) B. Zabel.
100 *Intestinal Symptoms with Exophthalmic Goiter. (Intestinalerscheinungen bei Basedowscher Krankheit und Schwierigkeiten der Diagnose.) K. Kolb.
101 Spontaneous Healing of Appendicitis. (Zur Selbstheilung der Blinddarmentzündung.) L. Deppe.
102 Moving Pictures of the Heart Action. (Bewegungsaufnahmen des Herzens mit Röntgenstrahlen.) F. Dessauer and L. Kupferle.
103 Simplified Technic for Roentgenography. (Direkte Röntgenaufnahmen ohne Verwendung von Platten.) Hufnagel.
104 *Intermittent Limping. (Kasuistischer Beitrag zur Aetiologie, Pathogenese und Therapie der Dysbasia angiosclerotica.) J. Pick.
105 Scientific Dietetics. (Diätbehandlung und diätetische Küche.) W. Sternberg.
106 General Remarks on Suits for Malpractice. (Aerztliche Haftpflicht. Weshalb haftet der Arzt dem Patienten gegenüber regelmässig nicht auf Schmerzensgeld?) P. Fromherz.
107 Operative Treatment of Epilepsy. O. Tilmann.

98. Transfusion of Blood.—Flörcken reviews the experiences in this line that have been reported in German literature and describes five cases from his own experience. He ascribes the benefit to stimulation of the bone-marrow, and regards the prospects of the measure as very promising. There was no tendency to embolism in his or Hotz' cases, and except for a single slight rise of temperature in one instance there was no fever at any time, but there were signs of hemolysis in two of his five cases and in future he would be forewarned against this. The Carrel technic is preferable, perhaps, but the general practitioner would find it simpler and easier to connect the two vessels with an artery taken from a calf or dog and prepared with formaldehyd and paraffin. His patients were four women between 21 and 40, and one man of 26. The latter had pernicious anemia and the immediate effect of the transfusion was most striking, the pallor yielding to a rosy tint. The hemoglobin had been 20 per cent. before but was 40 per cent. the next day and the patient has been better since. The anemia in the other patients was secondary to hemorrhage or chlorosis and all were promptly restored to health.

99. Diagnosis of Enlarged Bronchial Lymph-Nodes.—Zabel has found in his extensive dispensary practice that auscultation over the spine of the whispering voice gives by far the most instructive information in regard to the condition of the bronchial glands. This is d'Espine's sign (it was described in full in THE JOURNAL, March 9, 1907, p. 909), and Zabel has found it positive when all other signs failed. It consists in having the patient say the French words *trois cent trente-trois* while the examiner auscults the cervical vertebral processes one after the other. The spoken words are accompanied by the characteristic tracheal resonance but in normal children this resonance stops abruptly at the seventh cervical vertebra, where the lung begins. If there are any enlarged bronchial lymph-nodes, the tracheal resonance extends farther down, possibly as far as the fifth thoracic vertebra. At this point is the main accumulation of the enlarged glands. They encircle the trachea and the bifurcation, extending around to the spine, and thus forming a sound-propagating connection between them. The unassisted ear perceives the bronchophony more distinctly than with the stethoscope, but the latter permits more exact localization. The findings are still more instructive if the patient whispers instead of speaks the words. If the glands are enlarged, an acoustic phenomenon is observed then which has been called "aphonious pectoriloquy" or *chuchotement*. Barot calls d'Espine's sign "trachysigophony" and has reported positive findings in hundreds of cases. Leroux also ranks it above all other measures for diagnosis of enlarged bronchial lymph-nodes, and Krantz and Roch have also extolled its reliability. The bifurcation in children is on a level with the third thoracic vertebra but in the aged it is as low as the fifth or sixth. Consequently allowance must be made for this in examining adults. The bronchial resonance changes abruptly from one vertebra to the other, and this is a special advantage of this method for diagnosis as mistakes are scarcely possible when the ear has once seized the bronchial timbre of the voice. One must not be misled by an unusually forcible transmission of the ordinary voice, without bronchial resonance, nor by a tumor in front, displacing the trachea. He has had five such cases in the last few months. In case of a process in the apex, it is scarcely possible to distinguish the enlarged lymph-nodes, but the diagnosis is of no practical importance in this case. A coincident pleural effusion might prove misleading; Roch has described a case of this kind in which there were two zones of bronchophony, the lower at the upper edge of the pleural effusion and the other corresponding to the enlarged lymph-nodes. Zabel found the course of the cases or the necropsy findings corroborate in every instance the findings of the sign. In many cases nothing else hinted that the lymph-nodes were not entirely normal. Even roentgenoscopy failed in five-sixths of these cases. The value of the sign was especially evident in young people with chronic catarrh of the air passages, tendency to eczema where the skin and mucosa meet, and to dyspepsia, rapid pulse and fluctuations in temperature, particularly after exercise, the lymph-nodes in the neck swollen and a tendency to general asthenia. Zabel believes that young persons presenting one or more of these general symptoms have some tuberculous process in the bronchial lymph-nodes when auscultation over each vertebra separately shows bronchophony of the whispering voice below a certain vertebra. In young children this is above the seventh cervical; at the age of 8, the first thoracic vertebra; at 12, the second; at 15, the third. When other symptoms and signs indicated lesions in the bronchial lymph-nodes the d'Espine sign was invariably positive. In three cases of cancer in the esophagus and one in the cardia, the d'Espine sign was also positive, probably from metastasis in the lymph-nodes.

100. Intestinal Derangement with Exophthalmic Goiter.—Kolb refers to a case reported recently by Schmieden in which a workingman had a chronic rebellious intestinal disorder but no signs of tuberculosis or cancer could be discovered or any other organic cause for the trouble except signs of mild exophthalmic goiter. An operation on the thyroid cured the intestinal trouble at once and permanently. Kolb has recently encountered a similar case. His patient was a man of 45 with a goiter since his eighteenth year, fluctuating in size but growing larger during the last six years. There were occasional headaches and palpitations. Inquiry elicited the fact that he had had diarrhea for fifteen years, rebellious to all treatment. On the diagnosis of symptom-poor, secondary exophthalmic goiter, the substernal goiter was removed and the tendency to diarrhea disappeared from the hour of the operation. Diarrhea in obscure cases of exophthalmic goiter may prove the clue to the diagnosis. Kolb even goes so far as to assert that

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all cases of diarrhea not amenable to therapeutic measures and for which no clinical objective explanation can be found, should always suggest the possibility of a masked incipient exophthalmic goiter.

104. **Intermittent Limping.**—Pick has recently given a month's course of treatment to thirteen patients with angiosclerotic dysbasia or intermittent claudication, much improving their condition. He describes the cases in detail and emphasizes that treatment must aim to improve conditions in the circulation, and for this he has found the negative-pressure breathing apparatus a powerful aid, pumping more blood through the arteries and at a more rapid rate, thus nourishing the muscles more effectually. He gives iodin preparations in the form of a spray to be inhaled; this spares the stomach and causes no symptoms of iodin poisoning. He commends the negative-pressure apparatus as a valuable adjuvant in treatment of arteriosclerosis in general and especially for the coronary arteries. He has his patients keep up moderate negative-pressure breathing exercises after their return home. With a more active circulation through the limbs, the danger of gangrene is rendered more remote. In conclusion he reports two additional cases in which with incipient coronary sclerosis the pulse in the right dorsalis pedis artery is much weaker than in the left, or the left is imperceptible, while the right is still evident, but the posticus on neither side shows any pulse. The history suggests lead or nicotine poison, but no syphilis.

Virchows Archiv, Berlin

November, CCX, No. 2, pp. 161-320

108 Adrenals with Anencephaly. (Nebennieren bei Anencephalie.) R. Meyer. Commenced in No. 1.
109 Hemorrhage in the Adrenals in the New-Born. (Ueber Nebennierenblutungen bei Neugeborenen.) C. Lundsgaard.
110 Routes of Infection in Tuberculosis. H. Beitzke.
111 Histogenesis of Lymph-Node Tuberculosis. (Ueber die Histogenese des Lymphdrüsentuberkels und die Frühstadien der Lymphdrüsentuberkulose.) E. Jorst and E. Ensshoff.
112 Tubercle in the Heart. (Fall von endokardialem Abklatschtuberkel.) H. Reinhard.
113 The Elements of the Thymus. II. (Thymusstudien.) C. Hart.
114 Classification of Kidney Diseases. (Können wir die Nierenerkrankungen nach ätiologischen Gesichtspunkten eintheilen?) T. Fahr.

Zeitschrift für Kinderheilkunde, Berlin

November, V, No. 5, pp. 255-348

115 Intradermal Diphtheria Toxin Reaction. (Die Intracutanreaktion des Menschen auf Diphtherietoxinjektion als Ausdruck des Schutzkörpergehaltes seines Serums.) J. Michiels and R. Schick.
116 Tendency to Rachitis and Spasmophilia in Twins. L. Langstein.
117 Heat Regulation in Infants. (Das Wärmerregulationsvermögen des Säuglings.) A. Mendelssohn.
118 Vegetable Digesting Ferment and Its Application in Infant-Feeding. (Ueber ein pflanzliches Labferment und seine Anwendung in der Diätetik des Säuglingsalters.) M. Custex.
119 *Primary Focus in Pulmonary Tuberculosis. M. Zarfl.
120 Jaundice of the Newly Born. (Icterus Neonatorum.) L. Unger.

119. **Primary Tuberculous Foci in the Lungs of Infants.**—Kuss, Albrecht and others have decided from post-mortem examinations of a large number of cases that pulmonary tuberculosis is of vastly greater frequence in infants than any other form, and that the primary focus in almost all cases is in the lung from inhalation, and that the degenerative changes in the bronchial glands are secondary. Parrat found this primary lung focus in every one of 145 cases, often only after very long and painstaking search. To demonstrate this claim histologically it is necessary to examine cases in the very early stages. In most infants dying from tuberculosis the degenerative changes are so far advanced that it is impossible to determine the primary focus. Zarfl describes in detail a case of an infant dying at 25 days of age, born of a tuberculous mother and cared for by the patients in a tuberculosis hospital. The cause of death was lobular pneumonia with capillary bronchitis. There was a small focus the size of a hemp seed projecting from the anterior surface of the left upper lobe, entirely solidified. On microscopic examination it was shown to contain many tubercle bacilli. The glands were not affected. Zarfl concludes that the bacilli were inhaled and led to the formation of an exudate and pneumonia, instead of to tubercle formation.

Brazil Medico, Rio de Janeiro

November 22, XXVI, No. 44, pp. 459-468

121 *Indications for Electric Enemas. (Occlusão intestinal e gravidez. Cura pelo clyster electrico. Indicação clyster electrico em geral.) C. Peixoto.

121. **Electricity in Enemas.**—Peixoto applies Boudet's method of sending the faradic current through the body from an electrode in the back to one on the abdomen after a saline enema has been given, to be retained during the sitting. He has found this method useful in cases of intestinal obstruction when it can be applied early, but if the obstruction has lasted long enough to do serious damage the electric enema is directly contra-indicated as it may bring on a catastrophe. He reports the successful application of the measure to a woman in the ninth month of her fifth pregnancy with symptoms of ileus.

Revista de Medicina y Cirugia, Havana

December 25, XVII, No. 24, pp. 687-702

122 *Treatment of Nephritis with Serum from Renal Vein of the Goat. M. M. Dominguez.

122. **Serotherapy in Nephritis.**—The form of serotherapy to which Dominguez refers is that introduced by J. Teissier of Lyons in 1908, which he says has passed out of the tentative stage into practical and successful use. He states that the method has been applied in Cuba by various clinicians who have thus warded off severe uremia, but he gives no clinical details. The method was described in these columns Nov. 14, 1908, p. 1738. It is the subcutaneous injection of serum from the renal vein of the goat. The blood in this vein must contain the internal secretion of the kidney, if such exists, and clinical experience confirms this theoretical assumption. The principle involved is different from that of organotherapy; the organ is not removed but continues functioning and passing out its vital secretion, and this internal secretion then acts on the other glands and on the emunctories. Teissier selected the goat, regarding its serum as less toxic and less inclined to induce serum sickness and similar phenomena than horse serum. No instance is known, Dominguez says, of symptoms of anaphylaxis following injection of goat serum. To ward off any possible danger from this source, Teissier gives calcium lactate during the serotherapy, 0.5 gm. morning and evening. Dominguez commences the serotherapy with 10 or 20 c.c. of the goat renal vein serum, repeating the subcutaneous injection every fifth day with the same or a larger dose. In urgent cases the injections can be made every day; he cites one clinician who thus administered up to 350 c.c. in the course of two months.

Semana Medica, Buenos Aires

November 14, XIX, No. 46, pp. 981-1040

123 Treatment of Anemias. P. J. Garcia.

November 21, No. 47, pp. 1041-1100

124 Hygiene of the Eyes. (Hygiene visual.) R. Argañaraz.
125 Experimental Research on Influence of Sodium Bicarbonate on Acetonuria. R. Novoa.

Wiener klinische Wochenschrift, Vienna

December 5, XXV, No. 49, pp. 1933-1964

126 Campaign Against Uterine Cancer. (In welcher Weise lässt sich die Frühoperation des Gebärmutterkrebses fordern?) J. Schottländer.
127 Improved Technic for the Meiostagmin Reaction. (Ueber Antigene für die Meiostagminreaktion.) G. Izar.
128 *Benzol in Treatment of Leukemia. B. Stein.
129 Nucleinic Acid in Treatment of Progressive Paralysis. C. Tsiminakis.

128. **Benzol in Treatment of Leukemia.**—Stein reports that a six weeks' course of benzol treatment had such a favorable influence in a case of myeloid leukemia that the leukocytes dropped from 225,000 to normal and the blood-picture approximated normal while all subjective symptoms disappeared and the patient gained in weight. She was a woman of 67 and only slight and transient benefit had been derived from a systematic course of roentgenotherapy. The benzol was given according to Koranyi's technic (described in THE JOURNAL, Oct. 5, 1912, p. 1333) except that it was given in a capsule which did not dissolve until it had passed out of the stomach. The spleen was no longer palpable when the patient was last seen; when the benzol treatment was commenced it extended below the level of the umbilicus and to the median line. When the benzol was suspended, arsenic was given for a time longer.

Zentralblatt für Chirurgie, Leipsic

December 14, XXXIX, No. 50, pp. 1697-1728

130 Formation of Bladder Out of Cecum. (Ersatz der exstirpierten Harnblase durch das Coecum.) P. Lengemann.
131 Exclusion of the Appendix. (Ausschaltung des Wurmfortsatzes.) S. Kofmann.

Zentralblatt für Gynäkologie, Leipsic

December 14, XXXVI, No. 50, pp. 1681-1720

132 Puerperal Colon-Bacillus Invasion of Blood. (Colibakteriämie puerperalen Ursprungs.) R. Köhler.
133 "Hands Off the Uterus." ("Hand von der Gebärmutter.") W. Nacke.
134 Campaign Against Criminal Abortion. (Nochmals zum Kampf gegen die kriminelle Fruchtabtreibung.) M. Hirsch.

Gazzetta degli Ospedali e delle Cliniche, Milan

December 5, XXXIII, No. 146, pp. 1529-1536

135 Roentgenotherapy of Uterine Fibromas. (Fibromi uterini e raggi X. Indicazioni e controindicazioni del trattamento radioterapico.) H. Bordier.

December 8, No. 147, pp. 1537-1552

136 Case of Spontaneous Rupture of Mitral Valve in Chronic Myocarditis. (Rottura spontanea dell apparecchio valvolare mitralico.) G. Cappello.

Policlinico, Rome

December 8, XIX, No. 50, pp. 1819-1856

137 Toxic Nephritis from Helminths in Boy of 5. (Nefrite tossica da parassiti intestinali.) E. Giovannini.

December, Medical Section No. 12, pp. 527-570

138 Ferment-Arresting Action of Thiocyanic Acid in Respect to Pepsin. (Di un azione antifermentativa dell'acido solfocianico verso la pepsina.) E. Cavazzani and G. Avite.
139 Unreliability of the Tryptophan Test for Gastric Cancer. (Sul valore della prova del glycyltriptofano nella diagnosi di carcinoma gastrico.) E. Gilani.
140 Enhancing of Action of Fluorescent Drugs by Roentgen Rays. (Azione biologica e curativa delle sostanze fluorescenti associate ai raggi X.) F. Ghillarducci and E. Milani. Commenced in No. 11.

Riforma Medica, Naples

December 7, XXVIII, No. 49, pp. 1345-1372

141 Behavior of the Opsonins and Agglutinins in Animals After Castration or Injection of Extract of Testicles. (Comportamento delle opsonine e delle agglutinine negli animali castrati o iniettati di estratti testicolari.) D. De Sandro and Q. Torelli.
142 *Reeducation of the Motor Functions. (Sulla rieducazione fisica.) G. Boeri.
143 Influence of the Pancreas on Digestion and Absorption of Fats. P. F. Zuccola.
144 *Development of Parasites of Infantile Kala-Azar in Mosquitoes. (Leishmanie e zanzare. Ulteriori esperienze con zanzare o parassiti splenici.) G. Franchini.

142. Reeducation of the Muscles.—Boeri thinks that this name for Frenkel's method of training tabetics to walk anew is by no means comprehensive enough as the motor functioning is such a complex mechanism of physical and psychic factors, stimulations and inhibitions. He insists that this system of reeducation should not be confined to treatment of tabes alone but should be regarded as a general principle in treatment of various affections, as it is based on physiology and on the intimate relations between the movements of the muscles and the psychic functioning. The principle should not be restricted to the humble task of reeducating the peripheral tools of locomotion but should be applied to the highest spheres of psychic activity in the brain cortex; here it blends with psychotherapy, which may be called the reeducation of the ideas. Considering that some muscular contraction corresponds to every idea, that the mental image of the movement precedes the movement and that the translation of the mental image into the effective movement is prevented by inhibiting forces, we can readily see the importance of paying special attention to these inhibiting forces in the process of reeducation. The principle of reeducation is being applied now not only to the gait but to speech, hearing and thought, and even to the vegetative processes, alimentation, digestion, micturition, respiration and the heart action, to the extent that the latter processes can be influenced by the action of the muscles above them which are under the control of the will, the abdominal muscles acting on the bladder, the heart influenced by respiration, massage, etc. Lagrance has called attention particularly to the possibility of reeducating the heart. Boeri urges bringing under the influence of the will power in this way numerous vital processes which are generally left entirely to themselves from birth to death, such as the functioning of the liver, the heart, the respiration, which we all now leave in their primitive untrained, natural state throughout life. He regards it as within our power to enhance the functional dignity of the vegetative processes and gradually improve these functions and transmit them on a higher plane to posterity. The tendency of physiologic education is to train our movements until they become automatic and thus we spare will power and force in them, while reeducation, on the other hand, seeks to revive the volitional and conscious mechanism of the movements.

144. Leishmania and Mosquitoes.—Franchini has previously reported the presence of this genus of parasites in the *Anopheles maculipennis* and here describes further research in this line, with illustrations of the findings. He states that in anopheles which had sucked an extract of spleen tissue, containing numerous parasites, from children with kala-azar he was able to trace the development through different stages both of the flagellated and the non-flagellated forms of the parasites.

Hospitalstidende, Copenhagen

December 4, LV, No. 49, pp. 1469-1500

145 *Atrophy of the Testicles After Mumps. (Testisatrofi efter Parotitis epidemica.) H. C. Hall.
146 *Positive Wassermann Reaction with Sarcoma. O. Lassen.

December 11, No. 50, pp. 1501-1524

147 Glycosuria with Cirrhosis of the Liver. (Om alimentær og spontan Glykosuriskilleise ved Levercirrhose og dette Symptoms Forhold til Pankreas.) K. A. Heiberg.

145. Atrophy of the Testicles after Mumps.—Hall found pronounced fibrous atrophy of the parenchyma of one testicle in a young man who had succumbed to a chronic gastro-intestinal trouble a year after an attack of mumps. The mumps had been localized almost exclusively in this testicle; the parotid glands did not swell. In another case the atrophied testicle became the seat of a tuberculous process, the latter being of more recent development than the atrophy left from mumps nearly fifteen years before the first symptoms of the tuberculous affection.

146. The Wassermann Reaction with Cancer.—Lassen states that there could be no question of syphilis in the case reported but yet the Wassermann reaction was strongly positive. Necropsy revealed a sarcoma in the anterior mediastinum of the young man. He cites the few cases on record of a positive reaction with cancer in the absence of syphilis, remarking that with improved technic the number is growing constantly smaller.

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148 Treatment of Internal Tuberculosis with Stored Light Rays. (Behandling af intern Tuberkulose med absorberet Lysenergi.) T. Brinch. See abstr. 227, 1912, lix, 1586.
149 *Acetyl-Salicylic Acid. (Nogle Acetylsalicylsyre-Erfaringer.) W. Thulstrup.

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150 Precipitation Reactions in Syphilis. (Kvantitative Fældningsreaktioner ved Syfilis.) V. Ellermann.
151 Dosage in Roentgenotherapy. (Bemærkninger om Dosering af Røntgenterapi.) H. Smidt.
152 Phenol in Urine After Use of Phenolized Gauze. (Fenolkamfergaze—Karbolurin.) E. Toft.

149. Personal Experiences with Acetyl-Salicylic Acid.—Thulstrup states that he has been taking acetyl-salicylic acid uninterruptedly for nine years to relieve extensive syphilitic periostitis. His dosage is 3 or 4 gm. a day and every attempt to suspend the drug or substitute another is always followed by aggravation of the pains in the course of a few days. He has thus taken 3.3 pounds of the drug per kilogram during each year, a total of over 26 pounds. There were no by-effects from the drug as long as the bowels moved freely, but if there was constipation, even for a day, it sounded as if thousands of electric bells were ringing in his ears. The by-effects all ceased as soon as the bowels moved. Sweating had no effect on the roaring in the ears or aggravated it, from the reduced diuresis. On an empty stomach, there was often pain after ingestion of the drug, probably from the enhancing of the acidity. To counteract this he generally took an alkaline drink with the tablet. He does not think his organs suffered from the prolonged use of the drug, even when it was combined with other drugs, mercury, salvarsan, potassium iodid or sarsaparilla.

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